DOCUMENT RESUME

ED 144 335 EC 102 458

AUTHOR	Showalter, Robert G.
TITLE	Purdue Interactive Television Colloquium Series: Continuing Career Education via IHETS Television Network. Final Report.
INSTITUTION	Purdue Univ., Lafayette, Ind. Dept. of Audiology and Speech Sciences.
SPONS AGENCY	Bureau of Education for the Handicapped (DHEW/OE), Washington, D.C.
PUB DATE	Aug 75
GRANT	OEG-0-71-3734(603)
NOTE	89p.; Best copy available
EDRS PRICE	MF-$0.83 HC-$4.67 Plus Postage.
DESCRIPTORS	*Closed Circuit Television; *Handicapped Children; *Inservice Education; Instructional Media; *Language Development; *Language Handicapped; Mass Media; Post Secondary Education; Program Descriptions; *Program Evaluation
IDENTIFIERS	Final Reports

ABSTRACT

The final report describes the organization and evaluation of a 2-year prototype project which utilized multipoint closed-circuit interactive television as a means of providing continuing career education to specialists working with language disordered children. Listed among the subjects covered by the television programing are language and the aphasic, retarded, and disadvantaged child; behavior modification; and stuttering therapy. Outlined is information on the telecast schedule, guest speakers, telecast format, project personnel, and individuals serving as resource persons. Noted are such project benefits as impressive attendance and cost effectiveness. Results from a participant questionnaire completed by 337 individuals are reported to support the projects success. Appended are project brochures; letters from participants, administrators, and speakers; and information related to the telecasts. (SBH)

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FINAL REPORT

PURDUE INTERACTIVE TELEVISION COLLOQUIUM SERIES

(Continuing Career Education via IHETS Television Network)

1971-1972 Series

LANGUAGE and CHILDREN with LANGUAGE DISORDERS

1972-1973 Series

BEHAVIOR MODIFICATION with the COMMUNICATIVELY HANDICAPPED

Special Project
Grant Number: OEG-0-71-3734(603)

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Department of Health, Education & Welfare
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PURDUE INTERACTIVE TELEVISION COLLOQUIUM SERIES:
A New Approach to Continuing Career Education in
Speech Pathology and Audiology

Continuing Career Education (CCE) has long been recognized as a fundamental requisite to maintaining professional competency. To meet this need universities, professional associations and governmental agencies offer a variety of conferences, short courses and publications to specialists working with the communicatively handicapped. Most all traditional models of CCE have one commonality in that they are offered on a voluntary basis and the specialist may or may not choose to participate. The decision is totally an individual one.

Those interested in CCE are observing what appears to be a rather rapid transition from voluntary to mandatory involvement. This increased interest in compulsory CCE is most conspicuous in those vocations, such as health care and education, which serve the public. Two factors appear to be largely responsible for the trend toward mandatory CCE: (1) The US Office of Education estimates that educational information doubles approximately every decade. Bell (1971) asserts that an engineer's education is obsolete in ten to fifteen years after graduation. The same discomforting phenomenon is apparent in the field of communication disorders. This vast influx of new information made possible by advances in media technology has made education a perishable item that requires continuous rejuvenation. (2) Consumer advocacy and the spiraling economy are motivating legislators to be more active

in demanding accountability through legislation which will hopefully assure quality services to the public at the lowest possible cost. In Indiana alone the General Assembly has recently amended many professional licensure laws requiring evidence of participation in specified programs of CCE as a basis for license renewal. Such action, which has had the support of the professional groups involved, is expected to continue not only in Indiana but throughout the country.

Similarly, state departments of education are reviewing teacher certification with particular attention given to renewal requirements that would include mandatory CCE. This action would most certainly affect school speech and hearing clinicians. Mandatory CCE has also been adopted by professional associations. The American Speech and Hearing Association is currently considering re-certification based on CCE.

If professionals providing services to the communicatively handicapped are to be required to participate in CCE programs, professional associations, universities, federal, state, and local governmental agencies must assess their CCE programs in light of immediate as well as future needs. Mulder and Weston (1970) in reviewing existing models of CCE report, "Additional models for disseminating information are needed to compliment present attempts. Efforts should have greater impact on a large audience with less expenditure of the learner's time and effort."

The need for innovative new models of CCE is also supported in a study by Showalter (1969) which revealed that time, distance, and isolation from other clinicians were the most frequently given reasons by

school speech and hearing clinicians for not being able to participate in existing models of CCE. The investigation further revealed a range of one to thirty clinicians per Indiana school corporation. More signigicant however, was the fact that the majority of the school corporations employed one clinician. In addition to the problem of isolation, it was found that 70 percent of Indiana's clinicians were more than 60 miles from a State speech pathology and audiology training program.

Clearly there is a need to overcome these major obstacles to CCE if we are to provide quality client care. New models of CCE must be developed which will offer clinicians a readily available means of maintaining their professional competencies.

This final report describes the organization and evaluation of a two-year prototype Special Project (OEG-0-71-3734) which utilized multi-point closed-circuit interactive television as a means of providing CCE to specialists working with communicatively handicapped.

The Special Project goals were:

1. To develop a CCE program which will provide relevant information to specialists working with the communicatively handicapped.

2. To determine whether multi-point interactive television can have a greater impact on a larger audience with less expenditure of the learner's time and effort.

3. To determine whether interactive television can deliver CCE at less cost per contact hour of instruction than traditional models which require participant travel to one location.

4. Make telecast videotapes and project information available to interested professionals.

DESCRIPTION OF THE SPECIAL PROJECT

The Special Project utilized the Indiana Higher Education Telecommunication System (IHETS). Authorized by the 1967 Indiana General Assembly, IHETS links all of the Indiana state universities and their regional campuses by a closed-circuit television network. Figure 1 illustrates how this television network joins together 16 centers, virtually encompassing the state. Six of these regional campuses are located near enough to state lines to be readily accessible to specialists in Illinois, Kentucky, Michigan, and Ohio. In addition to the university campus reception centers, IHETS also interconnects 27 hospitals throughout the State.

IHETS has two unique features which lend themselves well to CCE. First, a closed-circuit system permits the originator to select the viewing audience and second, a "talk-back" system, figure 2, enables the viewers to engage in discussion with the lecturer as well as participants at the other reception centers.

A series of 12 IHETS telecasts each two hours in length were presented in approximately four-week intervals during the academic year 1971-72 and 1972-73. The telecasts originated from the Purdue University television studios and were transmitted to the following reception centers:

Bloomington, Indiana University
Evansville, Indiana State University
Fort Wayne, Indiana-Purdue
Gary, Indiana University
Hammond, Purdue Calumet
Indianapolis, Purdue University
Jeffersonville, Indiana University
Kokomo, Indiana University
Lafayette, Purdue University
Muncie, Ball State University
South Bend, Indiana University
Terre Haute, Indiana State University
Westville, Purdue North Central

FULLY-SWITCHED MULTI-PO... ...EO NETWORK
OF THE INDIANA HIGHER EDUCATION TELECOMMUNICATIONS SYSTEMS

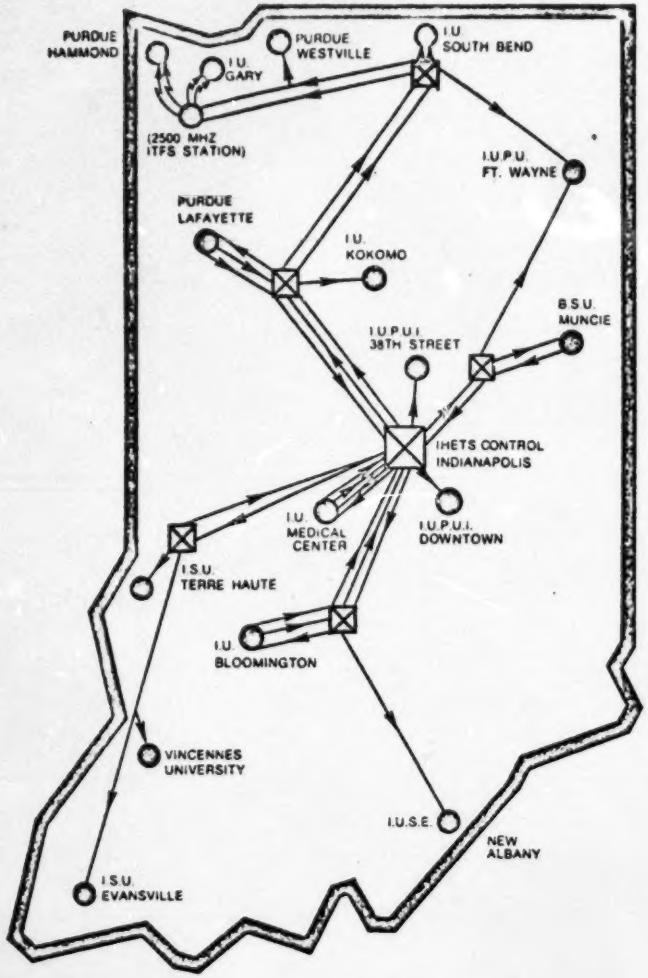

Figure 1

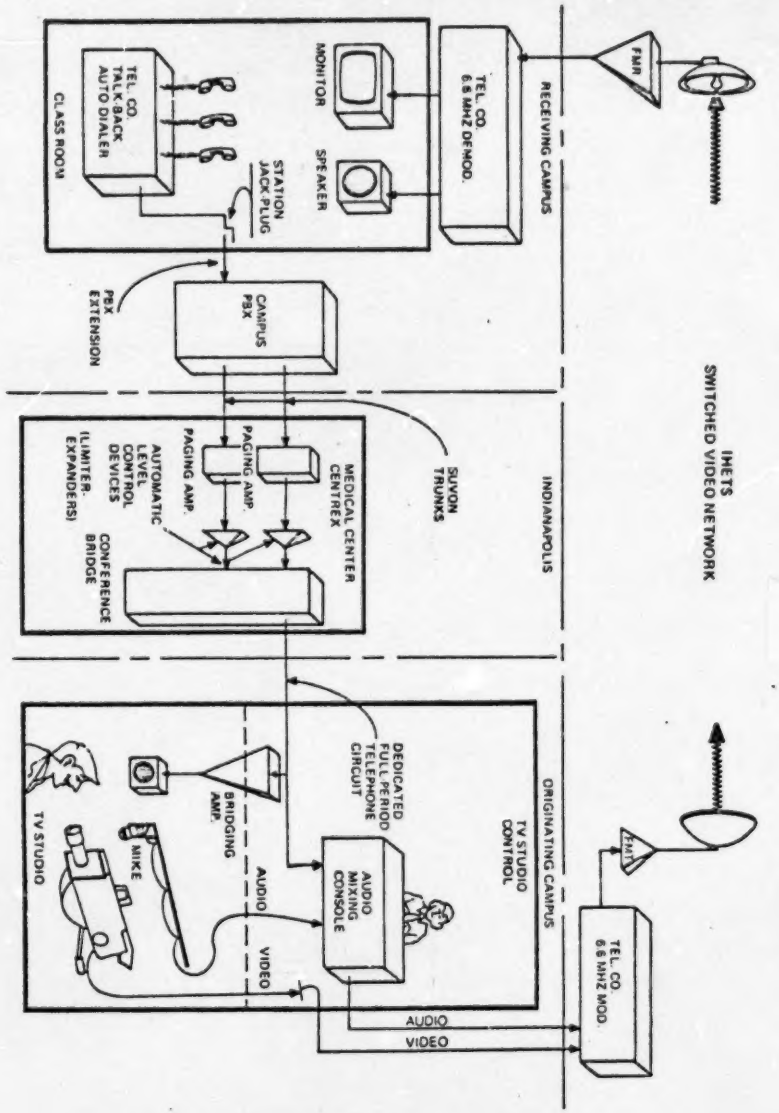

Figure 2

The 27 hospitals on the IHETS Medical Education Television network were also invited to participate on an informal basis. Funds were not available to include the hospitals in the primary organization structure.

At each reception center an area coordinator was selected on the basis of his/her professional stature and leadership ability. The coordinator was responsible for coordinating organizational activities in the area, disseminating news releases prepared by the Purdue University News Service, instructing the participants in the operation of the talk-back system during the telecast and serving as a discussion leader. In addition, the area coordinators served as an advisory committee for the Special Project, assisting in program planning and evaluation.

Because of the critical need to provide speech and hearing clinicians and special educators with more information in the area of language, all six telecasts for 1971-1972 pertained to language and children with language disorders. After consulting with the advisory committee and appropriate resource authorities, the following programs were presented:

Tuesday, October 12, 1971, 7:30 p.m., EST

"A Modern Look at Language Development"

Dr. Carol Chomsky
Research Associate
Graduate School of Education
Harvard University

Tuesday, November 9, 1971, 7:30 p.m., EST

"Diagnostic Procedures with the Language Disordered Child"

Dr. David Yoder
Department of Communicative Disorders
University of Wisconsin

Tuesday, December 7, 1971, 7:30 p.m., EST

"Language Therapy"

Professor Laura Lee
Department of Communicative Disorders
Northwestern University

Tuesday, February 22, 1972, 8:00 p.m., EST

"Language and the Aphasic Child"

Dr. Jon Eisenson, Director
Scottish Rite Institute for Childhood Aphasia
Stanford University School of Medicine

Tuesday, March 21, 1972, 8:00 p.m., EST

"Language and the Retarded Child"

Dr. Herold S. Lillywhite, Head
Speech and Hearing Clinic
Crippled Children's Division
University of Oregon Medical School

Tuesday, April 18, 1972, 8:00 p.m., EST

"Language and the Disadvantaged Child"

Dr. Vernon Stroud, Director
Department of Speech Pathology and Audiology
University of Cincinnati

In addition to the featured speakers the project was honored by the following guest appearances:

Tuesday, October 12, 1971

President Arthur G. Hansen
Purdue University

Tuesday, November 9, 1971

Dr. Edwin W. Martin, Director
Bureau of Education for the Handicapped

In response to participants requests, the 1972-1973 Purdue Interactive Television Colloquium Series again developed a central topic for

all six telecasts, Behavior Modification with the Communicatively Handicapped. Featured speakers included:

Tuesday, October 10, 1972, 7:30 p.m., EST

"Foundations of Behavior Modification"

Dr. Martin R. Adams
Department of Audiology and Speech Sciences
Purdue University

Tuesday, November 14, 1972, 7:30 p.m., EST

"Behavior Modification with Articulatory Disorders-I"

Dr. John V. Irwin
Memphis Speech and Hearing Center
Memphis State University

Tuesday, December 12, 1972, 7:30 p.m., EST

"Behavior Modification with Articulatory Disorders-II"

Dr. Donald E. Mowrer
Department of Speech
Arizona State University

Tuesday, February 13, 1973, 7:30 p.m., EST

"Stuttering Therapy and Operant Conditioning"

Dr. George H. Shames
Head, Department of Speech
University of Pittsburgh

Tuesday, March 13, 1973, 7:30 p.m., EST

"Stuttering and Two-Factor Behavior Therapy"

Dr. L. Michael Webster, Director
Speech Rehabilitation Institute
New York

Tuesday, April 17, 1973, 7:30 p.m., EST

"Operant Approaches for Speech and Language Therapy with the Retarded"

Richard L. Schiefelbusch
Bureau of Child Research
University of Kansas

Invited speakers were asked to submit outlines of their presentations along with any additional information (see Appendix C) they wished participants to have. These handouts were duplicated and mailed to the area coordinators for distribution the evening of the telecast. Speakers were also asked to send clinical demonstration videotapes which could be utilized during their presentations. Both the handouts and the videotapes proved to make a significant contribution to the success of the telecasts.

During August and September of each telecast year, brochures (see Appendix A) announcing the Purdue Interactive Television Colloquium Series (PITCS) were sent out to members of the American Speech and Hearing Association and the Council for Exceptional Children residing in Indiana, Illinois, Kentucky, Michigan, and Ohio. Announcements were also sent to the following:

(1) State Departments of Public Instruction, Divisions of Special Education

(2) State Speech and Hearing Associations

(3) National Association of Hearing and Speech Agencies

(4) State Councils for Administrators of Special Education

(5) State and National Associations for Retarded Children

(6) State and National Psychological Associations

(7) State Academies of Pediatrics

(8) State and National Easter Seal Societies

(9) Headstart Programs

The format for each two-hour telecast was flexible enough to meet the needs of the invited consultant and the material being presented.

However, the following format proved to be very functional.

I. A 75-minute presentation by the featured consultant.

II. At the conclusion of the presentation there was a 5-minute intermission at which time each center discussed the topic among themselves and developed questions and comments for the consultants in the television studio.

III. Resumed teletransmission with a 40-minute discussion and practical demonstration session using the talk-back system. Selected members of Purdue faculty were invited to join the featured consultant during the discussion session. The award area director acted as moderator and coordinated questions from the reception centers.

All telecasts were recorded on black and white 2-inch quadrature and 1/2-inch (EIAJ) standard interchange videotape. Announcements of videotape availability (see Appendix A) along with material describing this new model for continuing education, are being sent to appropriate professional journals, national, regional and state instructional materials centers and state departments of public instruction. Charges to users will be on a non-profit basis.

PERSONNEL

Award Area Director

Robert G. Showalter, M.A. (CCC-Sp,A)
Associate Professor and
Director, Speech Clinic
Department of Audiology
and Speech Sciences
Purdue University

Advisory Committee/Area Coordinators

Bloomington Center

Anne C. Summers
Speech and Hearing Clinician
Monroe County Community School Corporation

Evansville Center

Lee Ann Sheilds
Speech and Hearing Clinician
Evansville-Vanderburgh School Corporation

Fort Wayne Center

Wilbur G. Searer
Supervisor of Speech and Hearing
Fort Wayne Community Schools

Gary Center

Penny Catherine
Speech and Hearing Clinician
Gary Community School Corporation

Hammond Center

Nadyne T. Kokot
Speech and Hearing Clinician
School City of East Chicago

Indianapolis Center

Clare O. Fischer
Supervisor of Speech and Hearing
Indianapolis Public Schools

Jeffersonville Center

Teresa W. Sponcil
Speech and Hearing Clinician
New Albany-Floyd County Schools

Kokomo Center

Charles Nipple
Director of Special Education
Kokomo Community Schools

Lafayette Center

Ruth Ann Ferris
Speech and Hearing Clinician
Tippecanoe School Corporation

Muncie Center

William Kramer, Ph.D.
Speech and Hearing Clinic
Ball State University

South Bend Center

Karen Kaser
Speech and Hearing Clinician
South Bend Community School Corporation

Terre Haute Center

Helen Sapp, M.A.
Speech Clinic
Indiana State University

Vincennes Center

Margaret Mills
Speech and Hearing Clinician
Vincennes Community School Corporation

Westville Center

Eleanor Torode
Speech and Hearing Clinician
Michigan City Area Schools

The following individuals served as resource persons for the Special Project.

Wendell Jones, M.A.
Assistant Superintendent
Educational Service Region
Cook County, Illinois

Ramelle Patterson, Ph.D. (CCC-Sp,A)
Director
Hearing and Speech Center
Louisville, Kentucky

Robert Krajewski, Ed.D. (CCC-Sp)
Superintendent
East Chicago Schools

Nancy Paras
Supervisor, Speech and Hearing Programs
Division of Special Education
Office of the State Superintendent
of Public Instruction
Indianapolis, Indiana

Robert L. Ringel, Ph.D. (CCC Sp)
Professor and Head
Department of Audiology and Speech Sciences
Purdue University

Martin R. Adams, Ph.D. (CCC-Sp)
Associate Professor
Department of Audiology and Speech Sciences
Purdue University

M. D. Steer, Ph.D. (CCC-Sp)
Hanley Distinguished Professor
Department of Audiology and Speech Sciences
Purdue University

ATTENDANCE

One of the shortcomings of the traditional continuing education workshops or special study institutes is that the participant, most often, must be absent from home and job, travel considerable distance and requires food and lodging. Too, the logistic capabilities of physical facility of the workshop site frequently limit attendance.

Rather than the learner coming to the teacher, interactive television takes the teacher to the learner. The average attendance over all 13 reception centers was 517 persons. As pointed out by Dr. D. H. Lawshe, Vice President for Continuing Education, Purdue University, this series "was one of the best attended of any of the programs utilizing the Indiana Higher Education Telecommunication System." The impressive attendance is related to three equally important factors: (1) the information provided is of great interest to the participant, (2) the featured speakers were widely known and acknowledged authorities on the subject, (3) the learning centers were readily accessible to the participants. Since the telecasts were at 7:30 p.m., it was not necessary for any of the participants to be absent from work or away from home overnight.

EVALUATION

To assess the effectiveness of the Purdue Interactive Television Colloquium Series the following procedures were used:

1.) A comparative study was made between interactive television system costs and traditional continuing education participant per diem and travel costs.

2.) A participant questionnaire was developed with assistance from the Purdue Measurement and Research Center. The questionnaire provided participant evaluation of all aspects of the project. Specifically the questionnaire sought to: (a) collect demographic data, (b) identify the strengths and weaknesses of the project, and (c) determine if project goals/objectives had been successfully achieved.

3.) All directors of special education and supervisors having staff participating were asked to evaluate the project with special emphasis on observations of positive change in remedial services.

4.) Featured telecast speakers, the Advisory Committee/Area Coordinators and special resource consultants were asked to evaluate the project as it related to their specific responsibilities.

5.) Assessment was conducted of post-grant period demand for project videotapes by other agencies, organizations and institutions interested in professional training and continuing education.

Comparative Cost Study: Any approach to providing CCE must be considered in terms of cost effectiveness. Upon completion of the two-year Purdue Interactive Television Colloquium Series, a cost analysis was done comparing multi-point interactive television system costs with those costs necessary to bring participants to one central location for traditional models of CCE. (Figure 3) Special Project costs are based on actual attendance and television system costs only. Traditional model costs are estimated on 40 participants receiving $25 per diem and 120 miles travel at 13¢ per mile.

A COMPARATIVE STUDY

BETWEEN

INTERACTIVE TELEVISION SYSTEM COSTS AND TRADITIONAL

CONTINUING EDUCATION PARTICIPANT PER DIEM AND TRAVEL COSTS

Method of Disseminating Information	1) No. of Participants	2) Hrs. of Instruction	3) Cost	4) Total Student Contact Hrs. Of Inst. (Col. 1 x Col. 2)	5) Cost Per Std. Contact Hour (Col. 3 ÷ Col. 4)
Purdue Interactive Television Colloquium Series	517[1]	24	$9114[2]	12,408	.73
Traditional Continuing Education workshops which brings participants to one location over three days.	40	24	$3624[3]	960	3.77

Interactive television instruction in this example provided information to 13 times as many specialists working with the handicapped for 1/5 of the cost per student contact hour.

1. Average attendance over all 13 telecast reception centers.
2. Cost based on television network, studio and reception center expenses.
3. Cost based on $25 per diem and travel (120 estimated average miles traveled at 13¢.)

Robert G. Showalter, M.A.
Associate Professor and
Director, Speech Clinic
Department of Audiology and
Speech Sciences
Purdue University

Figure 3

The Special Project provided 12,408 (517 participants x 24 hrs.) student contact hours of instruction with a television systems cost ($9114 ÷ 12,408) of $.73 per contact hour of instruction. The traditional model provided 960 (40 participants x 24 hrs. over three days) student contact hours of instruction with costs ($3324 per diem/travel ÷ 960) of $3.77 per contact hour of instruction.

The Purdue Interactive Television Colloquium Series provided instruction for 13 times as many persons as the traditional model at one-fifth the cost per contact hour of instruction.

There are also some significant intangible costs that must be considered in evaluating multi-point interactive television CCE. As indicated earlier, the telecasts were scheduled at a time that did not require participants to be absent from work. School administrators have made sharp reductions in staff released time. A review of master contracts of school corporations employing speech and hearing specialists revealed that employees, on the average, are allowed two days of released time for whatever the reason, i.e., professional or personal. This is certainly not sufficient to meet the CCE need of professionals and most certainly not adequate for many proposed and existing continuing education mandatory requirements. Telecommunication makes it possible to provide CCE to more persons without a reduction of on-the-job productivity, a result not lost on cost conscious employers.

Participant Questionnaire: The following questionnaire was completed by 337 (85% female, 15% male) participants. The questionnaire covered all aspects of the Special Project.

1. Professional Specialty

School Speech and Hearing Clinicians	51%
Non-school Speech and Hearing Clinicians	13%
Teacher - Mentally Retarded	7%
Teacher - Elementary and Secondary	7%
University Faculty	6%
Administrators	5%
Learning Disabilities Specialists	4%
Psychologist	4%
Miscellaneous Non-Professionals	3%

2. Training

Non-Degree	3%
Bachelors	43%
Masters	48%
Doctoral	6%

3. Certification

(Speech Pathologists and Audiologists only; N = 252)

State School	65%
State School and ASHA - Speech Pathology	21%
ASHA - Speech Pathology	10%
State School, ASHA - Speech Pathology and Audiology	2%
ASHA - Audiology	1%
ASHA - Speech Pathology and Audiology	1%
State School and ASHA - Audiology	0%

4. Professional Organizations

(Speech Pathology and Audiology only)

State Speech and Hearing	32%
None	28%
State and ASHA	26%
State, ASHA and CEC	7%
American Speech and Hearing Association	4%
Council for Exceptional Children	2%
State and CEC	1%
ASHA and CEC	0%

5. State Representation

Illinois	19%
Indiana	68%
Kentucky	7%
Michigan	2%
Ohio	4%

6. Distance traveled to telecast reception center.

0-15 miles	74.1%
15-30 miles	8.1%
30-60 miles	6.2%
60 or more miles	11.6%

7. How satisfactory were local facilities over all telecasts attended?

   a. Found a parking place _____.

with difficulty	16.8%
easily	83.2%

   b. Located the showing room _____.

with difficulty	5.4%
easily	94.6%

   c. _____ TV set well.

Could see	96.6%
Could not see	3.4%

   d. TV picture quality was _____.

excellent	48.2%
satisfactory	49.1%
poor	2.7%

   e. The television audio (not talk-back) was _____.

excellent	49.5%
satisfactory	45.9%
poor	4.6%

   f. The television talk-back system functioned _____.

excellent	12.6%
satisfactory	53.8%
poor	33.6%

8. How satisfactory was the program format over all telecasts attended?

   a. The colloquium topics were _____.

excellent	81.6%
satisfactory	18.4%
poor	0.0%

b. The selection of speakers was _____.

excellent	52.2%
satisfactory	46.8%
poor	1.0%

c. The outline of the speaker's presentation was _____.

very helpful	54.8%
helpful	45.2%
no value	0.0%

d. The other handouts were _____.

very helpful	35.9%
helpful	62.2%
no value	1.9%

e. The videotape clinical demonstrations were _____.

very helpful	45.9%
helpful	47.7%
no value	6.4%

f. The telecast time (2 hours) was _____.

too long	26.5%
satisfactory	72.6%
too short	0.9%

g. I would prefer future telecasts to be _____.

one hour	13.8%
one and 1/2 hour	50.9%
2 hours	30.5%
2 and 1/2 hours	3.9%
3 hours	0.9%
3 and 1/2 hours	0.0%
4 hours	0.0%

h. Tuesdays are _____ nights for the telecasts.

excellent	27.9%
satisfactory	68.5%
poor	3.6%

i. I would prefer future telecasts to be on _____.

Monday	7.8%

i. Continued

Tuesday	87.0%
Wednesday	3.9%
Thursday	1.3%
Friday	0.0%
Saturday	0.0%

j. I would prefer future telecasts start at _____.

3:30	0.0%
4:00	1.0%
4:30	1.8%
5:00	0.0%
5:30	0.0%
6:00	1.0%
6:30	7.8%
7:00	34.6%
7:30	41.3%
8:00	12.5%

k. The discussion session following the speaker's presentation was _____.

too long	22.0%
satisfactory	74.0%
too short	4.0%

l. I would prefer writing my question and having the coordinator ask it.

yes	54.7%
no	45.3%

m. I would prefer asking my own questions.

yes	42.5%
no	57.5%

n. I would prefer future telecasts to be scheduled _____.

once a week	1.9%
every 2 weeks	3.7%
once a month	86.0%
bi-monthly	8.4%

9. Overall, how satisfied were you with the Purdue Interactive Television Colloquium Series?

very satisfied	62.0%

9. Continued

satisfied	32.4%
dissatisfied	4.6%
very dissatisfied	1.0%

10. What other subjects would you like to see covered in future telecasts?

Some 26 topics were suggested. The list below (in order of frequency) includes only those topics that were most often suggested.

Stuttering
Voice Disorders
Organic Speech Problems
Behavior Modification
Learning Disabilities
*Language Therapy
Articulation
Hearing Disorders
Recent Research Findings
Aphasia

*Even though the question requested topics other than "Language" it was found that there were still a significant number of requests for more information on language.

Several items on the questionnaire are of particular significance and results merit further discussion.

Item #9, overall satisfaction with the Special Project, revealed that 62% of the participants were very satisfied and 32% satisfied. A project that provides CCE to more persons at one time than any other state function and in a manner satisfactory to 95% of the questionnaire respondents must be judged highly accountable.

Item #6, distance traveled to reception center, demonstrates one of the truly unique aspects of multi-point interactive television CCE. Seventy-four percent of the participants responding lived 15 miles or less from a reception center. In contrast, the Special Project was of sufficient interest to motivate 12% of the respondents to drive 60 miles or more to participate.

Item #4, professional affiliation, reveals that 63% of the respondents did not belong to the American Speech and Hearing Association and 90% did not belong to the Council for Exceptional Children. The Special Project reached professionals who do not have access to the primary sources of new information contained in the publications of these two national organizations. Not only

does multi-point interactive television fill a very critical void in CCE but it also provides a vehicle by which these professionals can be encouraged to take advantage of these other sources of CCE.

Item #1, professional specialty, reveals that while 64% of the participants were speech, language and hearing specialists, a significant interdisciplinary interest is noted.

Item #5, state representation, demonstrates that the Special Project was regional in scope, attracting 32% of the participants from Illinois, Kentucky, Michigan and Ohio.

Featured Speaker/Administrator Input: Appendix B includes a representative sampling of evaluative comments submitted by featured speakers, administrators and other persons interested in CCE. Responses were overwhelmingly supportive for the Special Project and the efforts to develop a new and effective model for CCE.

DISSEMINATION

A significant aspect of the Purdue Interactive Television Colloquium Series was the post-grant period dissemination. Would there be interest in further utilization of the system to provide CCE to speech, language and hearing specialists? Would there be a demand for telecast videotapes? The answer to both questions is an absolute Yes.

The Special Project in and of itself attracted a great deal of attention. Further, the Project Director submitted and continues to submit information and articles about the project and videotape availability. Brochures (see Appendix A) were mailed to directors of training and clinical service programs announcing videotapes were available for rent or purchase. Response was immediate and enthusiastic. At this time, eight months after the videotapes became available, an estimated 15,000 additional contact hours of instruction have been made possible through videotape dissemination. If these additional contact hours were to be included in the cost study, the overall cost would be reduced to about 36¢ per contact hour of instruction. Demand for the videotapes continues to be brisk and to date have been requested by the following persons and institutions:

Northern Michigan University - Marquette	Rental
Special Education Resource Center - Ecorse, MI	Rental
Barkley Memorial Center - University of Nebraska at Lincoln	Rental
Western Carolina University - Cullowhee	Rental
Sargent College - Boston, MA	Rental
Misericordia Home - Chicago, IL	Rental
Eastern Washington State College - Cheney	Rental
Les Passees Rehabilitation Center - Memphis, TN	Rental
Eastern Michigan University - Ypsilanti	Rental
University of Minnesota - Duluth	Rental
University of Vermont - Burlington	Rental
University of Kansas - Lawrence	Rental
College of St. Rose - Albany, NY	Rental
University of Nebraska Lincoln	Rental
Bloomsburg State College - Bloomsburg, PA	Sold
Metropolitan School District of Perry Twp. - Indianapolis, IN	Rental
Northeastern University - Boston, MA	Sold
Special Education Resource Center - Ecorse, MI (Repeat)	Rental
University of Arkansas - Little Rock	Rental
Donna Hubert - Wilington, OH	Rental
The College of Saint Rose - Albany, NY (Repeat)	Rental
University of Connecticut - Storrs	Rental
Oklahoma State University - Stillwater	Rental
Polk State School & Hospital - Polk, Venango Co., PA	Rental
University of Montana - Missoula	Rental
Polk State School & Hospital - Polk, Venango Co., PA (Repeat)	Rental
Veterans Administration, Fort Snelling - St. Paul, MN	Rental
University of Maryland - College Park	Rental
State University College - New Paltz, NY	Rental
Summit Co. Regional Speech & Hearing Assoc. - Kent, OH	Rental
The University of New Mexico - Albuquerque	Rental
Human Communication Disorders - Montreal, Que., Canada	Rental
The University of Nebraska - Lincoln (Repeat)	Rental
Midland Public Schools - MI	Rental
Lincoln Institute - Carlton, Vic., Australia	Sold

Washtenaw Intermediate School Dist. - Ann Arbor, MI	Rental
Polk State School & Hospital - Polk, Venango Co., PA (Repeat)	Rental
Special Education Assessment Center - Kenosha, WI	Rental
Human Communication Disorders - Montreal, Que., Can. (Repeat)	Rental
University of the Pacific - Stockton, CA	Rental
University of Nebraska - Lincoln (Repeat)	Rental
University of Nebraska - Lincoln (Repeat)	Rental
Communicative Disorders - Albuquerque, NM	Rental
Montclair State College - Upper Montclair, NJ	Rental
State College - E. Stroudsburg, PA	Rental
Florida State University - Tallahassee	Sold
Council for Exceptional Children - Billings, MT	Rental
The University of Alabama - Tuscaloosa	Rental
North Texas State University - Denton	Rental
NKC Public Schools - Kansas City, MO	Rental
Western Washington State College - Bellingham, WA	Rental
Alaska Speech & Hearing Assoc. - Fairbanks	Rental
Queens College - Flushing, NY	Rental
Trinity University - San Antonio, TX	Rental
Towson State College - Baltimore, MD	Rental
Columbia University - New York, NY	Rental
Speech & Hearing, Board of Education - Norwalk, CT	Rental
The College of Saint Rose - Albany, NY	Sold
Arizona Department of Education - Phoenix	Rental
Dept. of Education, San Diego Co. - San Diego, CA	Rental
Montgomery County Intermediate Unit - Norristown, PA	Rental
Northern Wisconsin Colony & Training School - Chippewa Falls, WI	Rental

As indicated by Dr. Edwin W. Martin, Director, Bureau of Education for the Handicapped, during his guest appearance on the second telecast of the Special Project, BEH wants to serve as a catalyst for innovative programs that can perpetuate themselves when federal seed money has been terminated. The Purdue Interactive Television Series has also been highly accountable in this respect. Since the conclusion of the Special Project, the Project Director, Robert G. Showalter, has completed contracts with the American Speech and Hearing Association, Indiana Speech and Hearing Association, Purdue University Continuing Education, and has

contracted for six telecasts in 1976 with the Indiana Board of Examiners for Speech Pathology and Audiology.

SUMMARY

The success of the Purdue Interactive Television Colloquium Series has exceeded even our own optimistic expectations. When the results are assessed against the goals for the project, it is clearly evident that the Special Project did in fact:

1. Provide relevant information to specialists working with the communicatively handicapped.
2. Have a greater impact on a larger audience with less expenditure of the learner's time and effort.
3. Deliver Continuing Career Education at significantly less cost than traditional models which require participants to travel to one central location.
4. Make videotapes available to many professionals throughout the United States and English-speaking countries.
5. Represent a broad inter-institutional cooperative effort.
6. Continue to provide a much needed service upon termination of federal funds.

Multi-point interactive television has a unique and important role to play as an educational tool. It can make a significant contribution toward helping specialists working with the handicapped to keep up with the knowledge explosion. We, specialists working with the handicapped, have only begun to develop the full potential of telecommunication as a teaching, service and research vehicle.

REFERENCES

Becker, Leonard V., The Freedom of Continuing Education, Asha, 16, 351-353, 1974

Bell, Terrel H., Year 1991, American Education, January-February, 1971

Moll, Kenneth L., Issues Facing Us--Continuing Education, Asha, 16, 306-307, 1974

Mulder, Robert L., Weston, Alan J., Continuing Education for the Profession of Speech Pathology and Audiology, Asha, 12, 327-329, 1970

Showalter, Robert G., Continuing Professional Education in Speech and Hearing Therapy: State-Wide Telecommunication, Indiana Speech and Hearing Association Journal, 27, 23-25, 1969.

APPENDIX A

PURDUE INTERACTIVE TELEVISION COLLOQUIUM SERIES

Mail to: Business Office — C.E. 3001
110 Stewart Center 66-15935
Purdue University, West Lafayette, IN 47907

____Series I — Children with Language Disorders — Set of five tapes	$100.00
____Tape 1 — Diagnostic Procedures with the Language Disordered Child	20.00
____Tape 2 — Language Therapy	20.00
____Tape 3 — Language and the Aphasic Child	20.00
____Tape 4 — Language and the Retarded Child	20.00
____Tape 5 — Language and the Disadvantaged Child	20.00
____Series II — Behavior Modification with the Communicatively Handicapped — Set of five tapes	$100.00
____Tape 1 — Foundations of Behavior Modification	20.00
____Tape 2 — Behavior Modification with the Articulatory Child	20.00
____Tape 3 — Behavior Modification in Articulation Therapy	20.00
____Tape 4 — Stuttering Therapy and Operant Conditioning	20.00
____Tape 5 — Stuttering and Two-Factor Behavior Therapy	20.00
____Language Training for the Retarded — Set of six tapes	120.00

Total Enclosed _____

Requested Use Dates: From_____
To_____

The above prices are based on a two-week rental period for ½" Sony tapes. Tapes may be rented on an availability basis, therefore early orders are encouraged. Direct purchase arrangements and price can be quoted upon request.

Make Checks Payable to PURDUE UNIVERSITY

PURDUE INTERACTIVE TELEVISION COLLOQUIUM SERIES

SERIES I
Children with Language Disorders

SERIES II
Behavior Modification with the Communicatively Handicapped

The Purdue Interactive Television Colloquium Series (PITCS) is a totally new approach to continuing professional education for specialists working with the communicatively handicapped. The two-year prototype grant project was sponsored by the Department of Audiology and Speech Sciences and funded by the U.S. Office of Education, Bureau of Education for the Handicapped.

Utilizing the facilities of the Indiana Higher Education Telecommunication System (IHETS), over 500 specialists representing a five-state area participated in the project. IHETS links all four of Indiana's state universities and their nine regional campuses by a closed-circuit television network. It is important to note that 74 percent of the participants reported traveling less than 15 miles to a reception center. PITCS provided 12,408 participant contact hours of instruction at a IHETS cost of 70¢ per contact hour. Two-way audio communication made possible teacher/learner interaction.

Each presentation described here is approximately two hours long, including the participant discussion, and were taped during the live telecast. Order forms and fee schedules will be found at the back of this catalogue. Thank you for your interest in the Purdue Interactive Television Colloquium Series.

Robert G. Showalter, M.A.
Associate Professor
Department of Audiology and Speech Sciences
PITCS, Project Director

Supported by the Bureau of Education for the Handicapped, Office of Education, Department of Health, Education and Welfare Grant #OEG-0-71-3734(603)

The opinions expressed in these video tapes do not necessarily reflect the position or policy of the U.S. Office of Education and no official endorsement should be inferred.

LANGUAGE and CHILDREN with LANGUAGE DISORDERS
Series I

DIAGNOSTIC PROCEDURES WITH THE LANGUAGE DISORDERED CHILD

Dr. David E. Yoder
University of Wisconsin

This particular colloquium series is prologued by a discussion with Dr. Edward Martin, Associate Commissioner of the U.S. Office of Education.

Dr. Yoder begins the talk by discussing a few of the very basic components of a language, namely that, (1) it is governed by rules, (2) it has semantic properties, (3) it is used for problem solving, and (4) it is basically acquired in a linguistic environment.

Attention is given to salient questions which must be asked when assessing language behavior. Two basic questions considered by the speaker are: what is the child's language acquisition history? and what need does the child have for using language?

Dr. Yoder also describes a procedural outline for assessing language behavior. The recommended procedure makes use of both structured (various tests) and unstructured (observation through conversation) information. The speaker's talk regarding assessing language content and language structure is complemented by a discussion of various standardized tests which may be used in clinical settings.

A question and answer period between the speaker and the viewing audience follows the presentation.

A sample viewer handout is included and may be reproduced and distributed at the time of the showing.

LANGUAGE THERAPY

Dr. Laura L. Lee
Northwestern University

The speaker begins her discussion with a clinical description of the typical preschool child manifesting a language disorder. Dr. Lee also discusses a number of clinical observations that the clinician should make, e.g. immature phonological and grammatical skills, inadequate retrieval abilities, limited vocabulary, and overall delay in development.

Further attention is given to clinical descriptions which do not typically describe the language disordered child. For example, these children are not mentally retarded, hearing impaired, emotionally disturbed, or neurologically impaired.

The speaker emphasizes the point that these children characteristically learn language in the normal developmental sequence. Their language development, however, progresses at a much slower rate than observed among their peers. Dr. Lee discusses in considerable detail a therapeutic program which makes use of what is known about normal language development.

The speaker presents video tapes of two clinicians working with children at various developmental levels. The tapes illustrate a conversational method of language teaching with two groups of children at different stages.

A question and answer period between the speaker and the viewing audience follows the presentation.

A sample viewer handout is included and may be reproduced and distributed at the time of the showing.

LANGUAGE AND THE APHASIC CHILD

Dr. John Eisenson
California State University

Dr. Eisenson speaks about three basic issues relevant to childhood aphasia, 1) clinical description, 2) implications for differential diagnosis, 3) therapeutic management. The speaker's concept of childhood aphasia is based on the asumption that the child's difficulty in processing and producing language is due to an underlying impairment in the auditory perception of speech events. Therefore, Dr. Eisenson devotes a considerable portion of the talk to the perceptual processes believed to be so significantly impaired in the developmental aphasic child. The viewer is presented with a thorough clinical description of the aphasic child.

The speaker discusses a number of perceptual functions which appear to be necessary for normal language development. He also discusses the linguistic aspects of the aphasic child.

A therapeutic approach to teaching aphasic children is also presented. The method is based on current models of normal language development.

LANGUAGE AND THE RETARDED CHILD

Dr. Herold Lillywhite
University of Oregon Medical School

Dr. Lillywhite provides the viewer with a clinical description of the speech and language functions of the mentally retarded child. It is noted that, among other problems, the mentally retarded child frequently demonstrates problems in hearing, speech, language, cognition, and general motor development.

Considerations in the assessment of communication among the retarded are also presented. Various diagnostic tools and test interpretations are discussed.

Language assessment of the retarded is followed by a discussion of therapeutic procedures and conditions to improve prognosis. Dr. Lillywhite discusses three language therapy programs based on operant principles. These three programs, however, are based on different models and apply somewhat differing techniques. The first program is designed for the institutionalized nonverbal child. The second program is used to teach syntax. The third program is designed for teaching language concepts.

The speaker presents a demonstration video tape of the Marshall-Hegrenes program (language concepts) of language development.

A question and answer period between the speaker and the viewing audience follows the presentation.

A sample viewer handout is included and may be reproduced and distributed at the time of the showing.

LANGUAGE AND THE DISADVANTAGED CHILD

Dr. R. Vernon Stroud
University of Cincinnati

Dr. Stroud initially presents the viewer with a brief history of Black Americans. Particular attention is given to the translocation of Blacks from their native country to America. The speaker also discusses two theories which attempt to explain the origin of Black speech differences.

The speaker presents a diagram representing the socioeconomic ladder, extending from the socioeconomically poor to the upper middle class. Dr. Stroud uses this socioeconomic ladder to demonstrate how foreign minority groups (Italians, Germans, Spanish-speaking Americans, etc.) have progressed through each level of the economic ladder to achieve middle class status. Blacks, however, have been forced to bypass intermediate economic levels (e.g., skilled labor) and ascend from poverty to middle class status. It is hypothesized that this bypassing of the intermediate socioeconomic levels has had a profoundly detrimental effect upon language experience among many Blacks.

Dr. Stroud points out that all too often disadvantaged children are bombarded with unrealistic models and goals for speech improvement. He emphasized the necessity for speech clinicians to reevaluate their teaching models and materials to include more realistic goals and expectation for the disadvantaged child.

A question and answer period between the speaker and the viewing audience follows the presentation.

A sample viewer handout is included and may be reproduced and distributed at the time of the showing.

BEHAVIOR MODIFICATION with the COMMUNICATIVELY HANDICAPPED
Series II

FOUNDATIONS OF BEHAVIOR MODIFICATION

Dr. Martin R. Adams
Purdue University

Behavior modification, according to the speaker, involves the application of experimentally established principles of learning for the purpose of modifying maladaptive human behavior. These principles, which are the foundations of behavior modification, are best described and understood if they are presented within the contexts of various types of conditioning experiments.

Dr. Adams first presents a brief background of Pavlov's work in classical conditioning. Stress is laid on the importance of the association or contiguity between antecedent stimuli in the establishment of classically conditioned responses. A split-screen videotape of classical conditioning dramatizes these crucial aspects of the conditioning process and allows for the delineation of some

characteristics of classical conditioning and classically conditioned responses. Then the relevance of classical conditioning to speech pathology, especially stuttering, is discussed.

In the next section of his talk, Dr. Adams reviews operant conditioning and its guiding principle, the Law of Effect. The significance of schedules or reinforcement and stimulus control in operant conditioning is emphasized. This section of the talk ends with a comparison between classical and operant conditioning.

The third portion of this tape includes a description of instrumental escape and avoidance conditioning (two-factor learning). Again, the split-screen videotape technique is used to dramatize this type of learning. An effort is made to show how some theorists have employed this two-factor learning process to account for the development of various stuttering symptoms.

A question and answer period between the speaker and the viewing audience follows the presentation.

A sample viewer handout is included and may be reproduced and distributed at the time of the showing.

BEHAVIOR MODIFICATION WITH ARTICULATORY DISORDERS

Dr. John V. Irwin
Memphis State University

Dr. Irwin discusses an approach to the treatment of articulatory disorders based on operant learning theory. The speaker initially discusses the protocol criteria for the Paired-Stimuli Technique. The criterion utilized in the implementation of this program is discussed in terms of the subjects, methodology, and expected results.

The viewer is also provided with a number of the underlying assumptions and rationale of the Paired-Stimuli Technique. The clinical use of this technique is discussed with demonstrations of a clinician shaping (building) certain articulatory products. Moreover, the videotapes illustrate the use of target phonemes, training words, key words, probes, and other elements which characterizes this therapeutic technique.

Dr. Irwin graphically presents the results of an investigation which studied the effectiveness of the Paired-Stimuli Technique in terms of acquisition time.

A question and answer period between the speaker and the viewing audience follows the presentation.

A sample viewer handout is included and may be reproduced and distributed at the time of the showing.

BEHAVIOR MODIFICATION IN ARTICULATION THERAPY

Dr. Donald E. Mowrer
Arizona State University

Dr. Mowrer presents an approach to the treatment of functional articulatory problems that utilizes principles of operant conditioning. The use of this technique is also discussed in relation to the treatment of stuttering. The use of programmed learning has been designed for use by speech aids, classroom teachers, and parents. Moreover, the operant programmed instructions are based on a three-step cycle of cues (antecedent events), responses, and evaluation (consequent events).

The articulation program has been designed specifically for the systematic correction of the frontal lisp. It is designed only for children in K-2nd grade and has been shown to have an 85% success probability. Dr. Mowrer also gives attention to the use of this program by speech aids and technicians.

The speaker employs the use of an overhead projector and video-tapes for illustrative purposes throughout the informal talk.

A question and answer period between the speaker and the viewing audience follows the presentation.

A sample viewer handout is included and may be reproduced and distributed at the time of the showing.

STUTTERING THERAPY AND OPERANT CONDITIONING

Dr. George H. Shames
University of Pittsburgh

Dr. Shames initially discusses some of the philosophical foundations upon which many of the traditional stuttering therapies are based. Considerations of the relationship between traditional therapy and those involving operant principles are also presented. It is profoundly emphasized that operant theories are raising many important questions germane to the clinical management of stuttering.

The speaker briefly introduces the operant model and discusses its rationale and utility. Attention is given to factors which clincians should become cognizant of when engaging in stuttering therapy.

A considerable portion of the discussion is devoted to the speaker's early work with operant conditioning and his therapeutic methodologies. A number of illustrations, in the form of case reports, are presented which demonstrate operant methodology. The speaker discusses both methodology and therapy results involving children and adults.

A question and answer period between the speaker and the viewing audience follows the presentation.

A sample viewer handout is included and may be reproduced and distributed at the time of the showing.

STUTTERING AND TWO-FACTOR BEHAVIOR THERAPY

Dr. L. Michael Webster

This talk begins with a brief presentation of Brutten and Shoemaker's two-factor theory of stuttering. Dr. Webster emphasized Factor I (classical) conditioning

because of its significant role in establishing learned negative emotional responses that are thought to trigger stuttering.

The speaker provides the viewer with brief definitions and examples of terms frequently used in the treatment of extinguishing Factor - I conditioning, (e.g. deconditioning, counterconditioning, reciprocal inhibition, and varying dimensions of systematic desensitization.) Considerations in the selection of patients for Factor I deconditioning are also presented and the speaker presents an overview of the differential diagnostic battery proposed by Brutten and Shoemaker. Several methods of determining the critical conditioning stimuli are also proposed.

Dr. Webster utilizes a number of videotape clips throughout the discussion to illustrate certain concepts or techniques. In discussing prerequisites to therapy, videotapes are employed in demonstrating facial progressive relaxation, visualization training, and the discrimination and signaling of muscular tension and/or felt emotional arousal.

Attention is also devoted to therapeutic techniques of systematic desensitization.

A question and answer period between the speaker and the viewing audience follows the presentation.

A sample viewer handout is included and may be reproduced and distributed at the time of the showing.

THIS PROGRAM IS A CONTINUING EDUCATION ACTIVITY OF PURDUE UNIVERSITY

ALSO AVAILABLE FROM PURDUE

LANGUAGE TRAINING FOR THE RETARDED

M. Irene Stephens, Ph.D.
Purdue University

This videotape series of six tapes was designed to be used in sequence and can be supplemented with accompanying written materials. The last page included in the written materials is an evaluation sheet which should be returned as indicated. One suggested pattern of use is an inservice training workshop in which tapes are presented two per day for three days. Discussion and individual contribution should be encouraged.

The sequence of tapes is as follows:

Tape 1: 40 minutes. *The Characteristics of Language.*
The various levels of language such as phonology, morphology, syntax, and semantics are explained and the complex nature of language itself is explored. The purpose of this tape is to look at the system which any language user, including the retarded, must learn.

Tape 2: 59 minutes. *Normal Language Development.*
This tape traces the typical pattern of language acquisition. It is intended to give the viewer developmental information for comparison and contrast with various retarded populations.

Tape 3: 36 minutes. *Language in the Retarded.*
Examples of recurrent language problems in the retarded are presented and three basic viewpoints are discussed. Having now covered the necessary background information, six guiding principles for language enhancement are introduced.

Tape 4: 60 minutes. *Group Enhancement Procedures.*
Many instances of structured and semistructured language programs currently in use throughout the state are offered. The neutral presentation of the varied approaches is designed to stimulate discussion.

Tape 5: 46 minutes. *Individual Enhancement Procedures.*
This tape is intended to display techniques for working with the individual, alone, and in a group. The intention is to show how classroom personnel can expand the child's language use throughout his prescribed program.

Tape 6: 43 minutes. *Testing, Evaluation, and Volunteers.*
The contribution of parents and volunteers to the child's total language environment is considered. Some useful assessment tools — both for the teacher and specialist — are included.

PURDUE UNIVERSITY

INTERACTIVE TELEVISION COLLOQUIUM SERIES

SERIES I

CHILDREN WITH LANGUAGE DISORDERS

SERIES II

BEHAVIOR MODIFICATION with the COMMUNICATIVELY HANDICAPPED

sponsored by
DEPARTMENT OF AUDIOLOGY and SPEECH SCIENCES
and
BUREAU OF EDUCATION FOR THE HANDICAPPED
U.S. OFFICE OF EDUCATION

PURPOSE

To provide speech and hearing clinicians, special educators, and other specialists an opportunity to keep abreast of new techniques of behavior modification for the communicatively handicapped.

To develop a new model for continuing professional education which will have a greater impact on a larger audience with less expenditure of the learner's time while maintaining teacher/learner interaction.

PROTOTYPE PROJECT

This totally new concept of continuing professional education for specialists working with the communicatively handicapped is made possible through the facilities of the Indiana Higher Education Telecommunication System. IHETS links all of Indiana's state universities and their regional campuses by a closed-circuit television network. This TV network reaches 13 centers virtually encompassing Indiana. Six of these centers are near state lines and are readily accessible to specialists in Illinois, Kentucky, Ohio and Michigan. No fee.

Each reception center will have a "talk-back" system which will enable the viewers to engage in discussion with the featured speaker as well as the participants at the other centers.

Professionals (no full-time students) have the option of earning one semester hour of graduate credit.

WHERE

Participants will go to the nearest university campus listed below:

Bloomington, IU, Room 211, School of Business Building
Evansville, ISU, Room 194, Classroom Building: Highway 62 West
Fort Wayne, IU-PU, Room G-46, Main Building: 2101 Coliseum Boulevard East
Hammond, PU, Room 121, Gyte Building: Take Tri-State Expressway to Indianapolis Blvd., just off the Expressway at 171st and Woodmar
Indianapolis, IUPUI, Med. Center, Room B-26, Medical Science Bldg.
Jeffersonville, IU, Room E-119, East Hall: Warder Park
Kokomo, IU, Main Building
Lafayette, PU, Rooms 105-6-7, Heavilon Hall
Michigan City, PU, Room 260, Main Building: 10 miles south on US 421
Muncie, BSU, Room 4, English Building
South Bend, IU, Room 104, Northside Hall: 1825 Northside Blvd.
Terre Haute, ISU, Room 102, Holmsted Hall: Chestnut & 6½ St.
Vincennes, VU, Room 107, Young Building: North 4th Street

HOSPTIAL MEDICAL AND PROFESSIONAL STAFF

These telecasts may be viewed at all hosptials on the Indiana Medical Education TV Channel (WAT-21).

Tuesday, October 10, 1972, 7:30 p.m., EST

"FOUNDATIONS OF BEHAVIOR MODIFICATION"
Martin R. Adams, Ph.D.
Department of Audiology and Speech Sciences
Purdue University

Tuesday, November 14, 1972, 7:30 p.m., EST

"BEHAVIOR MODIFICATION WITH ARTICULATORY DISORDERS-I"
John V. Irwin, Ph.D.
Memphis Speech and Hearing Center
Memphis State University

Tuesday, December 12, 1972, 7:30 p.m., EST

"BEHAVIOR MODIFICATION WITH ARTICULATORY DISORDERS-II"
Donald E. Mowrer, Ph.D.
Department of Speech
Arizona State University

Tuesday, February 13, 1973, 7:30 p.m., EST

"STUTTERING THERAPY AND OPERANT CONDITIONING"
George H. Shames, Ph.D.
Head, Department of Speech
University of Pittsburgh

Tuesday, March 13, 1973, 7:30 p.m., EST

"STUTTERING AND TWO-FACTOR BEHAVIOR THERAPY"
Dr. L. Michael Webster,
Director
Speech Rehabilitation
Institute, New York

Tuesday, April 17, 1973, 7:30 p.m., EST

"OPERANT APPROACHES FOR SPEECH AND LANGUAGE THERAPY WITH THE RETARDED"
Richard L. Schiefelbusch, Ph.D.
Bureau of Child Research
University of Kansas

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I am interested in the Graduate credit option (PU, AUS 590T). Please send further information _____.

I will view the telecasts from the reception center in _____, Indiana.
(Select center from those listed in this brochure.)

PURDUE UNIVERSITY

INTERACTIVE TELEVISION

COLLOQUIUM SERIES

on

BEHAVIOR MODIFICATION

with the

COMMUNICATIVELY HANDICAPPED

1972 1973

Prof. Robert G. Showalter
PITCS Project Director
Engineering Adm. Bldg.
Room 309
Purdue University
West Lafayette, Indiana 47907
Phone (317) 494-8009
494-8007

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Prof. Robert G. Showalter
PITCS Project Director
Engineering Administration Building
Room 309
Purdue University
West Lafayette, Indiana 47907

PURPOSE

To provide speech and hearing clinicians, special educators and other specialists working with the language impaired child an opportunity to keep abreast of new information on language and children with language disorders.

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Each reception center will have a "talk-back" system which will enable the viewers to engage in discussion with the featured speaker as well as the participants at the other centers. No fee.

WHERE

Participants will go to the nearest university campus listed below:

Bloomington, IU, Radio & TV Bldg., Studio 7
Evansville, Ind. St. Univ. Classroom Bldg., Rm. 194; Highway 62 West
Ft. Wayne, IU–Purdue, Main Bldg., Rm. 107; 2101 Coliseum Boulevard East
Gary, To Be Announced
Hammond, Purdue Univ. Calumet Bldg., Rm. 103; 2233 171st Street
Indianapolis, IUPUI, Med. Center, Rm. B-26, Med. Sci. Bldg.
Jeffersonville, IU, East Hall, Rm. E-119; Warder Park
Kokomo, To Be Announced
Lafayette, PU, Heavilon Hall, Rms. 105-6-7
Muncie, Ball St. Univ., English Bldg., Rm. 4
South Bend, To Be Announced
Terre Haute, ISU, Rm. 16, Holmsted Hall; Chestnut & 6½ Street
Vincennes, VU, CATV Bldg.; 1029 North 4th Street
Michigan City, PU, Main Bldg., Rm. 260; 10 miles South on US 421

HOSPITAL MEDICAL AND PROFESSIONAL STAFF

These telecasts may be viewed at all hospitals on the Indiana Medical Education TV Channel (WAT-21).

Tuesday, October 12, 1971, 7:30 p.m., EST

"A MODERN LOOK AT LANGUAGE DEVELOPMENT"
Dr. Carol Chomsky
Research Associate
Graduate School of Education
Harvard University

Tuesday, November 9, 1971, 7:30 p.m., EST

"DIAGNOSTIC PROCEDURES WITH THE LANGUAGE DISORDERED CHILD"
Dr. David Yoder
Department of Communicative Disorders
University of Wisconsin

Tuesday, December 7, 1971, 7:30 p.m., EST

"LANGUAGE THERAPY"
Professor Laura Lee
Department of Communicative Disorders
Northwestern University

Tuesday, February 22, 1972, 7:30 p.m., EST

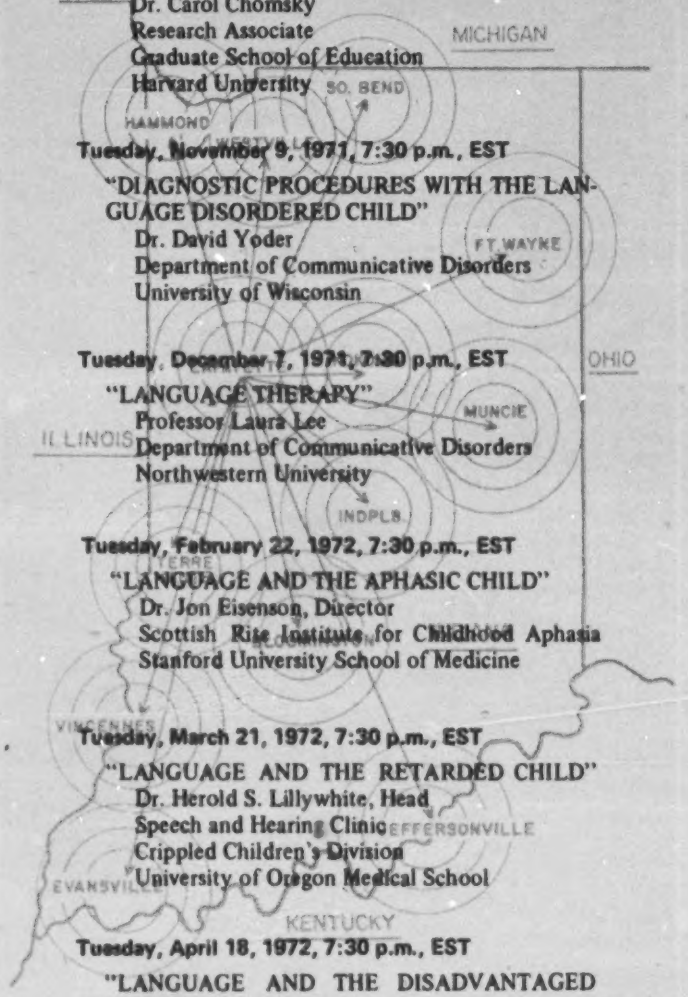
"LANGUAGE AND THE APHASIC CHILD"
Dr. Jon Eisenson, Director
Scottish Rite Institute for Childhood Aphasia
Stanford University School of Medicine

Tuesday, March 21, 1972, 7:30 p.m., EST

"LANGUAGE AND THE RETARDED CHILD"
Dr. Herold S. Lillywhite, Head
Speech and Hearing Clinic
Crippled Children's Division
University of Oregon Medical School

Tuesday, April 18, 1972, 7:30 p.m., EST

"LANGUAGE AND THE DISADVANTAGED CHILD"
Dr. Vernon Stroud, Director
Department of Speech Pathology & Audiology
University of Cincinnati



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ADDRESS _____

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(Select center from those listed in this brochure.)

PURDUE UNIVERSITY

INTERACTIVE TELEVISION
COLLOQUIUM SERIES
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LANGUAGE and CHILDREN
with LANGUAGE DISORDERS
1971–1972

sponsored by
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BUREAU OF EDUCATION FOR THE HANDICAPPED
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PTVCS Project Director
Department of Audiology and
Speech Sciences
Purdue University
Lafayette, Indiana 47907

APPENDIX B

ADMINISTRATOR, SPEAKER, PARTICIPANT EVALUATION

Administrator	B1 - B5
Speaker	B6 - B10
Participant	B11 - B15

PURDUE UNIVERSITY
REGIONAL CAMPUS ADMINISTRATION
LAFAYETTE, INDIANA 47907

OFFICE OF THE
VICE PRESIDENT

March 13, 1972

Professor Robert G. Showalter,
Project Director
Purdue Interactive Television
Colloquium Series of Language
and Children with Language
Disorders
Department of Audiology
and Speech Sciences

Dear Professor Showalter

May I take this opportunity to congratulate you on the success of your interactive television continuing professional education project. It has been one of the best attended of any of the programs utilizing the Indiana Higher Education Telecommunication System (IHETS). Your project, which I understand is the first of its kind in any area of special education, has overcome the major obstacles of time and distance which impede traditional approaches to continuing education without loss of instructor-learner interaction which is a critical aspect of learning.

I might add that an innovative system of delivery (IHETS) in and of itself does not guarantee success. I am sure that the relevance of the information prsented and your organization and administration of a project of this magnitude have been keystones for the enthusiastic response of the participants.

May I wish you every success in your future efforts.

Cordially yours

C. H. Lawshe
Vice President

CHL/dg

CC: R. L. Ringel
M. B. Ogle

STATE OF INDIANA

STATE SUPERINTENDENT OF PUBLIC INSTRUCTION
JOHN J. LOUGHLIN

INDIANAPOLIS 46204

DIVISION OF SPECIAL EDUCATION
ROOM 108-STATE OFFICE BLDG.
PHONE (317) 633-4763

March 7, 1972

Professor Robert Showalter
Associate Professor
Department of Audiology
and Speech Sciences
309 Engineering Administration Building
Purdue University
Lafayette, Indiana 47906

Dear Professor Showalter:

The Division of Special Education, Department of Public Instruction, wishes to commend you for your efforts in providing continuing professional education for speech, language, and hearing clinicians via the Interactive Television Colloquium Series on Language and Children with Language Disorders, 1971-72. Indiana public school clinicians and special educators have expressed great enthusiasm for this type of continuing professional education, as it both allows them to hear authorities in a specific area and participate in discussions via the "talk-back" system.

Our office shall be happy to continue to support and assist you in your efforts in providing outstanding continuing professional education to clinicians and other special educators. May we wish you success in your continued endeavors.

Sincerely,

Nancy J. Paras

(MISS) NANCY J. PARAS, CONSULTANT
Programs for Speech, Language
and Hearing Handicapped

Gilbert A. Bliton

GILBERT A. BLITON, DIRECTOR
Division of Special Education

cp

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Superintendent

SCHOOL CITY OF EAST CHICAGO
School Administration Building
210 East Columbus Drive
East Chicago, Indiana

March 3, 1972

Mr. Robert G. Showalter, M.A.
Associate Professor
Dept. of Audiology & Speech Sciences
Purdue University
Lafayette, Indiana 479 07

Dear Mr.Showalter:

I would hope that you would be successful in obtaining a grant renewal to continue the Purdue Interactive Television Colloquium Series for the school year 1972-73.

Increasingly, we in the public schools are aware of the need to provide very adequate current and useful inservice training for our entire professional staff. Even more necessary is the need for this type of ongoing inservice training for those who have specialized roles within the public schools.

Nationally we are seeing greater pressures to delegate more responsibilities to speech and hearing therapists especially in the frame of reference of language for disadvantaged youngsters. It is this type of colloqualism that speaks to that need; without it the schools operate with serious deficits.

Sincerely,

Robert Krajewski
Superintendent of Schools

RK:sfk

COMMONWEALTH OF KENTUCKY

Department of Education

FRANKFORT 40601

March 15, 1972

Mr. Robert G. Showalter, M.A.
Associate Professor
Project Director, Purdue
Interactive Television
Colloquium Series
Purdue University
Department of Audiology and Speech
Sciences
Lafayette, Indiana 47907

Dear Mr. Showalter:

We are delighted to learn of your proposal to continue the Interactive Television Colloquium Series.

The 1971-72 series on Language and Children with Language Disorders has been valuable to public school speech correctionists in continuing their professional education. This program has provided the participants an opportunity to keep abreast of new developments in the field, as well as on the spot discussion with the featured professional authority.

We appreciate the fact that Kentucky Public School speech correctionists have been afforded the opportunity to participate in the 1971-72 program. We would anticipate their continued enthusiastic participation in, and support of, the 1972-73 series on behavior therapy.

Sincerely yours,

Jean Bell

(Mrs.) Jean Bell, Consultant
Division of Special Education

JB:nar

B4

MC
MICHIGAN CITY AREA SCHOOLS
AS

MULLEN SCHOOL • 100 MANNY COURT • MICHIGAN CITY, INDIANA 46360 • TELEPHONE (219) 874-7291
DR. CHARLES E. FIELDS
Superintendent
RICHARD F. SURBER
Director
Special Education

March 16, 1972

Mr. Robert G. Showalter, M.A.
Associate Professor
Purdue University
Department of Audiology & Speech Sciences
Lafayette, Indiana 47907

Dear Bob:

We in this area have been pleased with the Purdue Interactive Television Colloquium Series broadcast from the Lafayette campus this school year.

We have long felt a need for more excellent in-service training programs. The lecturers who appeared on these telecasts have been outstanding in their respective fields. We do not have funds available in our own school system to bring in people of this caliber often enough. Therefore, we are happy that you have devised the means of sharing them with education personnel throughout the state.

Since the reception center at Purdue North Central is within ten miles of Michigan City and the programs were telecast at night, it was not necessary to request released time for those wishing to attend or to expect them to drive long distances.

Many of the participants commented that the talk-back part of the program, during which they were able to ask questions of the speaker directly, was just as interesting and informative as the formal lecture.

I hope that we will be able to participate in more of these programs next year.

Sincerely yours,

Richard F. Surber

Richard F. Surber
Director of Special Education
Michigan City Area Schools

RFS:s

NORTHWESTERN UNIVERSITY
THE SCHOOL OF SPEECH
EVANSTON, ILLINOIS 60201

DEPARTMENT OF COMMUNICATIVE DISORDERS
1331 HINMAN AVENUE

February 1, 1972

Professor Robert G. Showalter
Department of Audiology & Speech Sciences
Purdue University
Lafayette, Indiana 47907

Dear Professor Showalter,

This letter is to express my appreciation and enthusiasm for the Purdue University Interactive Television Colloquium Series and for its significant contribution to this profession. As one of your participants, I can say that it was run smoothly and capably and I was amazed to see what far-reaching results it has had. Everywhere I go, I meet someone who has seen the telecasts and comments most favorably about them. When the tapes become available, they will be a very worthwhile teaching aid for programs all over the country. I hope you will find a way to continue this valuable in-service training for speech and hearing clinicians.

Sincerely,

Laura L. Lee

(Mrs.) Laura L. Lee
Associate Professor,
Speech Pathology

LLL/bs

The University of Wisconsin | DEPARTMENT OF COMMUNICATIVE DISORDERS
ELM DRIVE - BUILDING C 1975 Willow Drive
MADISON, WISCONSIN 53706

February 16, 1972

Professor Robert G. Showalter
Department of Audiology and
Speech Sciences
Purdue University
Lafayette, Indiana 47907

Dear Bob,

Participating in the Interactive Television Colloquium Series was a new experience for me, and I'm not sure on what to base my reactions or quite how to evaluate the effect of my contribution. My initial and subjective reaction was positive, however, the limited amount of time given to develop the scope of the topic assigned to me has prompted me to question whether I was able to accomplish much with respect to changing the participants' attitudes and behaviors relative to assessing children's language behavior. The questions which were fed back gave evidence of further interest, but you are in a better position to judge whether I reached my audience from the evaluation forms you received from the participants.

I have received quite a bit of mail from listeners who have asked for further information about specific tests, as well as wanting some questions answered which time on the telecast did not permit. This in turn further reinforced my initial reaction that more time could have been spent on each topic. The idea of the Colloquium for inservice training I think is most outstanding and necessary. I would suggest, however, that perhaps an entire series could be devoted to just one of the topics which you presented in one evening. In other words, I'm suggesting that maybe more could have been accomplished if six hours had been spent on Assessment, for example, than on the broader aspect of language behavior. This is just a questioning reaction which I now have, Bob, particularly since I have been involved in many inservice types of programs in the past few months and find that after having spent a 5-hour day on the subject of Assessment, we're then getting to a place of some understanding.

Those of us looking for the most efficient use of teaching time must be careful that we don't give only superficial and limited information, which in turn does little to enhance the behavior of the clinician and, consequently, little if anything, for the service to the child.

Somehow this is beginning to have a negative sound to it and I don't want that at all. The idea is great and I support you all the way in it. Your audience will be the best judges of what you get in return for your efforts. Really, the children who have benefited from the changes in teaching techniques are the ones who would be your best testimony -- too bad we can't get some word from them.

Sincerely,

David

David E. Yoder, Ph.D.
Associate Professor of
Communicative Disorders

pz

STANFORD UNIVERSITY SCHOOL OF MEDICINE
Department of Surgery
Hearing and Speech Sciences Section

SCOTTISH RITE INSTITUTE FOR CHILDHOOD APHASIA
Jon Eisenson, Ph.D., Director
600 Willow Road
Palo Alto, California 94304

Area Code 415
321-1200
Ext. 5491

March 2, 1972

Robert G. Showalter, M.A.
Associate Professor
Department of Audiology and
Speech Sciences
Lafayette, Indiana 47907

Dear Bob,

Many thanks for your note of February 28.

As you know, I thoroughly enjoyed my participation in the Purdue University Interactive Television Colloquim. As for "Evaluative Statements" here are my reactions.

Personally, I would have found it helpful to have a live audience - even a small one in the studio - so that I could interact with potential respondents during my presentation. It might also help if, in advance, the speaker could be given some key questions or statements of specific areas to cover during the course of the presentation.

Another thought is that the initial presentation might be limited to about a half hour, followed by a question period, and then by a closing statement to conclude the presentation. This procedure, I appreciate, might be difficult for some speakers, even though it suits my style. Perhaps you might vary the procedure in keeping with the wishes of your speakers.

Again, my thanks for the opportunity to be a participant.

Cordially,

Jon Eisenson

Jon Eisenson, Ph.D.

JE:al

B9

BOARD OF EDUCATION
City of Chicago
OFFICE OF DISTRICT TWELVE
SHIELDS ELEMENTARY SCHOOL
4250 South Rockwell Street
Chicago, Illinois 60632
Telephone 254-1571

JOSEPH J. ZBORNIK
District Superintendent of Schools

March 7, 1972

Robert G. Showalter, M.A.
Associate Professor
Department of Audiology
and Speech Sciences
Purdue University
Lafayette, Indiana 47907

Dear Mr. Showalter:

Thank you for the opportunity of participating in the Purdue University Interactive Television Colloquium Series on Language and Children with Language Disorders, 1971-1972.

As a participant, I found the lectures, demonstrations, and discussions both meaningful and relevant in aiding me, as a school speech and language therapist, to keep abreast of new information on language development and disorders. More importantly, attendance at the lectures has been a means of greater ability in terms of delivering a better quality of therapy to the youngsters I serve.

I do hope the ITV68 will continue in future years. I am confident such a program will be a successful means for continuing professional education in the area of communication disorders.

Sincerely,

Vincent P. Nasca

Vincent P. Nasca, M.A.
Speech Therapist
Office of District Twelve

Approved:

Joseph J. Zbornik

DEFIANCE COUNTY BOARD OF EDUCATION

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DEFIANCE, OHIO 43512
Courthouse Annex
Phone 782-3921
Phone 782-4361

The Board of Education Meets the Second Wednesday of each Month at 8:00 P.M. in the office of County Superintendent

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MRS. FRANCES HENSLEY
Intermediate Supervisor
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School Psychologist
MRS. MARIE KAUSER
School Psychologist
MRS. NANCY ARTHUR
Speech-Hearing Therapist
MRS. SANDRA HERROON
Speech-Hearing Therapist
MISS JO ANN HAUK
Speech-Hearing Therapist
MRS. DONNA P. WIDMER
Secretary

March 16, 1972

Robert G. Showalter
Associate Professor
Purdue University

Dear Mr. Showalter,

As a participant in the Purdue Interactive Television Colloquium Series 1971-72, I would like to express my appreciation to you for a fine group of lectures and an informative in-service training program. It is difficult, as you know, to keep up with the new ideas and theories of practice in our field and this is an excellent was to do just this. Even though I must travel 50 miles each way to attend this series, I feel it is well worth the time. Please continue the series.

Sincerely,

Nancy Arthur

(Mrs.) Nancy L. Arthur, M.A.
Speech Pathologist
Defiance County Schools
Defiance County Health Department

Cardinal Hill Convalescent Hospital
3050 VERSAILLES ROAD
Lexington, Kentucky 40514

March 3, 1972

Prof. Robert G. Showalter
PTVCS Project Director
Department of Audiology
and Speech Sciences
Purdue University
Lafayette, Indiana 47907

Dear Prof. Showalter:

I attended the Interactive Television Colloquium Series on Language and Children with Language Disorders. This educational experience proved to be most beneficial and well worth the distance I traveled to attend the series.

Each telecast covered a particular phase of language and the total series provided an exceptional opportunity to obtain the latest information concerning language and children with language disorders. This was one of the most worthwhile continuing education projects I have attended, and I hope future series will be scheduled.

Sincerely,

Dorothy B. Elkins

Dorothy B. Elkins, M.A.
Speech Pathologist

B13

URSULINE SPEECH & HEARING CLINIC
3105 LEXINGTON ROAD
LOUISVILLE, KY. 40206
TEL. (502) 897-1811 ext. 256-259
Accredited for Professional Services
American Speech & Hearing Association

March 9, 1972

Prof. Robert G. Showalter
P.T.V.C.S. Project Director
Purdue University
Lafayette, Indiana 47907

Dear Professor Showalter:

The Interactive Television Colloquium Series on Language and Children with Language Disorders held during the 1971-72 school year, four of which I have viewed so far, have been of excellent quality. This is certainly a new and effective way to continue professional education for speech & hearing workers working with communicatively handicapped people. I would like to see it continued during the next school year 1972-73.

Gratefully yours,
Sister Dorothy Freedman
Speech Pathologist
Sister M. Rosaire Wiltenburger

B14

MICHIGAN STATE UNIVERSITY EAST LANSING • MICHIGAN 48823

DEPARTMENT OF AUDIOLOGY AND SPEECH SCIENCES

March 14, 1972

Mr. Robert G. Showalter
Associate Professor
Project Director, Interactive Television Series
(Children with Language Disorders)
Purdue University
Lafayette, Indiana 47901

Dear Mr. Showalter:

The project on Language Disorder in Children that was broadcast over the Indiana higher education networks was tremendous. I had to make an effort to get to Ft. Wayne, on some nights but the efforts paid off when I was able to see and at times ask questions of the speakers on the Purdue campus.

I do hope we can get video tapes of the lectures because they would be excellent to use in training speech and language pathologists.

Sincerely yours,

Elsie M. Edwards

Elsie M. Edwards, Ph.D.
Associate Professor

EME/crg

APPENDIX C

PURDUE UNIVERSITY INTERACTIVE TELEVISION COLLOQUIUM SERIES

"Language Development, Assessment, and
Therapy for the Retarded Child"

Herold Lillywhite, Ph.D.
Professor of Speech Pathology
University of Oregon Medical School

I. Significant Landmarks of Normal Speech and Language Development.
   - A. Rationale for considering normal language development in relation to the language of the retarded child.
   - B. Critical periods of language development.

II. Requisites for Normal Development of Language.
   - A. Physical requisites.
   - B. Mental requisites.
   - C. Psycho-social, environmental requisites.
   - D. The mentally retarded child and requisites for the development of language.

III. Language Disorders of the Mentally Retarded.
   - A. Typical and atypical language problems.
   - B. Prevalence.
   - C. Summary of characteristics of language disorders in mental retardation.

IV. Assessment of Language Disorders in the Retarded.
   - A. Special problems in assessing language of the retarded child.

B. Different approaches to assessment needed for the retarded child.

C. Specific approaches and testing tools for assessment in the areas of: 1) Perception, 2) Comprehension, 3) Language Formulation, 4) Expression.

V. The Management of Language Disorders in the Retarded.

A. Philosophical and practical considerations.

1. Aspects of prognosis.
2. Justification for therapy.
3. Goals of therapy.
4. Progress.
5. Termination of therapy.
6. Related physical, environmental, and social problems.

B. Understandings of relationships of phonology, morphology, syntax, and semantics in language therapy for the mentally retarded.

VI. General Principles of Language Therapy.

A. Principles related to specific therapy approaches.

B. Principles related to therapy involving the home, school, and other environmental aspects.

C. Relating therapy to the unique language problems of the retarded.

D. Relating language therapy to other problems common to retardation.

VII. Specific Language Therapy Procedures.

A. Importance of making use of past successful procedures, adapting, and creating new procedures.

B. Application of principles of operant conditioning to language therapy with the retarded.

1. Should not be considered as the final and only answer and used indiscriminately.

2. Skillful and selective use of operant techniques offer the most successful approach to date for language therapy with the retarded.

a. Provides a highly structured, well-organized, systematized approach needed to bring organization to the disorganized language skills of the retarded.

b. Makes it possible to provide therapy in small identifiable units with measurable progress.

c. Provides specific long-range goals and methods of measuring progress toward these.

C. Three language therapy programs based on operant principles, but using different models and applying different techniques.

1. Program developed by Dr. Louise R. Kent at the Fort Custer State Home for Mentally Retarded, Augusta, Michigan.

2. Program developed by Drs. John F. Miller and David E. Yoder, Department of Communication Disorders, University of Wisconsin.
3. Program developed by Drs. Nancy R. Marshall and Jack R. Hegrenes, Child Development and Rehabilitation Center, University of Oregon Medical School.
4. Demonstration film segment of the Marshall-Hegrenes program.

SUMMARY OF ORGANIZERS FOR CONCEPT DEVELOPMENT

Marshall and Hegrenes

I. Spatial Organizers

A. Boundary Maintaining Mechanisms
1. table against the child
2. table blocking child in the corner
3. child being physically restrained by a second clinician

B. Auditory and visual amplification
1. hearing aid
2. phonic ear
3. elevated intensity of VTR, tape recorder or clinician
4. enlarged stimulus materials

C. Physical manipulation
1. manipulating the oral structures
2. manipulating the extremities to teach gross motor imitation

D. Prompter
1. a second clinician giving the child the correct response to the first clinician discrimative stimulus. A, B, C, and D are prosthetic inhibitors and facilitators which assist in dealing with competing responses.

E. Orienting Control
1. location - having the child sitting in a chair under the control of the clinician. This includes auditory and visual attention.
2. Reinforcer determined - a standard ten minute session is conducted three times using three different reinforcers, such as, social reinforcement, candy or ice cream. The ratio between correct responses and discriminative stimuli is computed over three sessions and the reinforcer which results in the highest correct response ratio is used. If the child satiates on that reinforcer later in treatment it is changed.

II. Proprioceptive Organizers

A. Peripheral Motor - The clinician models a gross motor response such as raising a hand or clapping hands and the child imitates.

B. Peripheral Facial - The gestural model is refined and placed closer to the oral cavity. This might include pointing to facial parts such as mouth, eyes, nose, etc.

C. Oral Postures - The child is asked to imitate a motor model of various lip and tongue exercises.

D. Phonetic Placement - The child is asked to imitate visible phonetic placements modeled by the clinician but it is not necessary for the child to phonate.

III. Transmission Organizers

A. Using the imitation skill gained by the child in the second area of organization, the child is asked to:
1. imitate the motor aspect of a phoneme
2. produce the phoneme
3. pair the phoneme with a vowel and produce a morpheme which is the smallest sound unit which can carry meaning
4. combine a consonant vowel consonant (CVC) sequence
5. imitate a vocal and not necessarily a verbal sequence modeled by the clinician

B. The sequence of events listed above form the basis for pairing the production of phonetic combinations with concepts beginning with single words and progressing to noun-verb pairs and finally phrases.

IV. Identity Organizers

A. Non-verbal object identification requires the child to point to an object he has discriminated visually from a group of objects and uses the former non-verbal skills.
1. Three carrier phrases are used:
a. "Point to the _____" (a toy is used)
b. "Show me the _____"
c. "Where is the _____"

The first two require a non-verbal motoric response and the third can be responded to gesturally but has the added possibility of a verbal response. The "Where" word is more abstract and serves as a bridge to the next compartment. The object provides a concrete aspect to the therapy and clinic data shows that concreteness results in a higher correct response ratio.

B. The child is asked to verbally identify objects from a group as well as non-verbally point to objects.
1. The three carrier phrases above are used to pair a gestural response with a labeling response.

C. The next step requires a verbal response only to a verbal discriminative stimulus from the clinician.
1. A labeling response is required and the bridge of pointing is dropped leaving the abstract label.

D. The child is asked to describe the action of an object such as "What is the dog doing?" The clinician will model the correct response and put the dog through an activity such as walking and then ask the child to respond. The verbal model by the clinician is called a prompt. The child has then become an identifier and describer of objects and activities.
1. A toy is put through a motor activity, e.g., having a dog run. A prompt of "The dog is running" is followed by a descriminative stimulus "What is the dog doing?" The child observes the activity, listens to the prompt, and answers the S^D using the prompt as a model. The prompt is gradually faded.

The above four compartments fall under - Observer function (identifier and describer).

The second group of compartments under concept formation are as follows:

1. Sense relationship
   The personal pronoun "I" is built into the program to give the child a sense of self with relation to the environment. It is an attempt to increase his perception of reality in relations to objects and people. He learns different ways of relating, e.g., in labeling and describing the child says "I see a _____" which gives him a visual orientation, "I have a _____" which adds the sense of touch and form and enables him to be located in space.

2. Active object manipulation
   The child becomes a doer operating on and in his environment which gives him self esteem and a sense of competence. The child interacts between himself and objects and people and the use of "I" is reinforced.

The above are under the compartment of self-object orientation.

3. Active People manipulation
   The safeness of relating to objects is expanded to people and the child learns to mand which is to command direction or question of people and the child has the ability to change people and circumstances in their environment. The child learns the verb "want", e.g., a cup of M & M's, potato chips and marshmallows are placed before the child. He is asked "What do you want?" He responds, "I want _____" and is reinforced with a primary reinforcer. The primary reinforcer is gradually replaced by activities and objects.

These compartments fall under self-person orientation. When this and observer function (identifier and describer) are mastered, the child has gained autonomy and is demonstrating functional communication. At this point the child is either terminated or referred to community programs since he no longer needs the team.

GENERAL TREATMENT MODEL

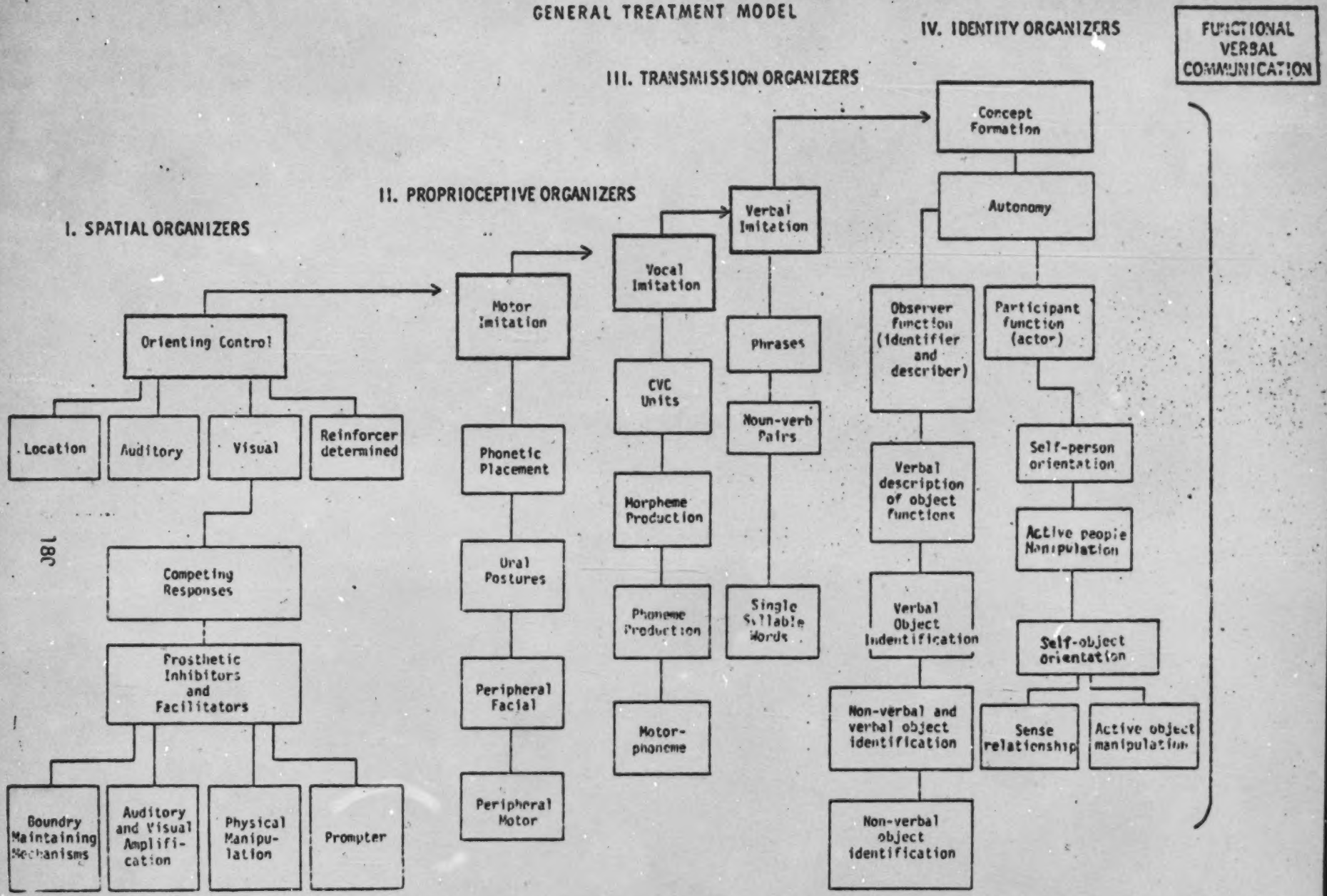

Illustration I

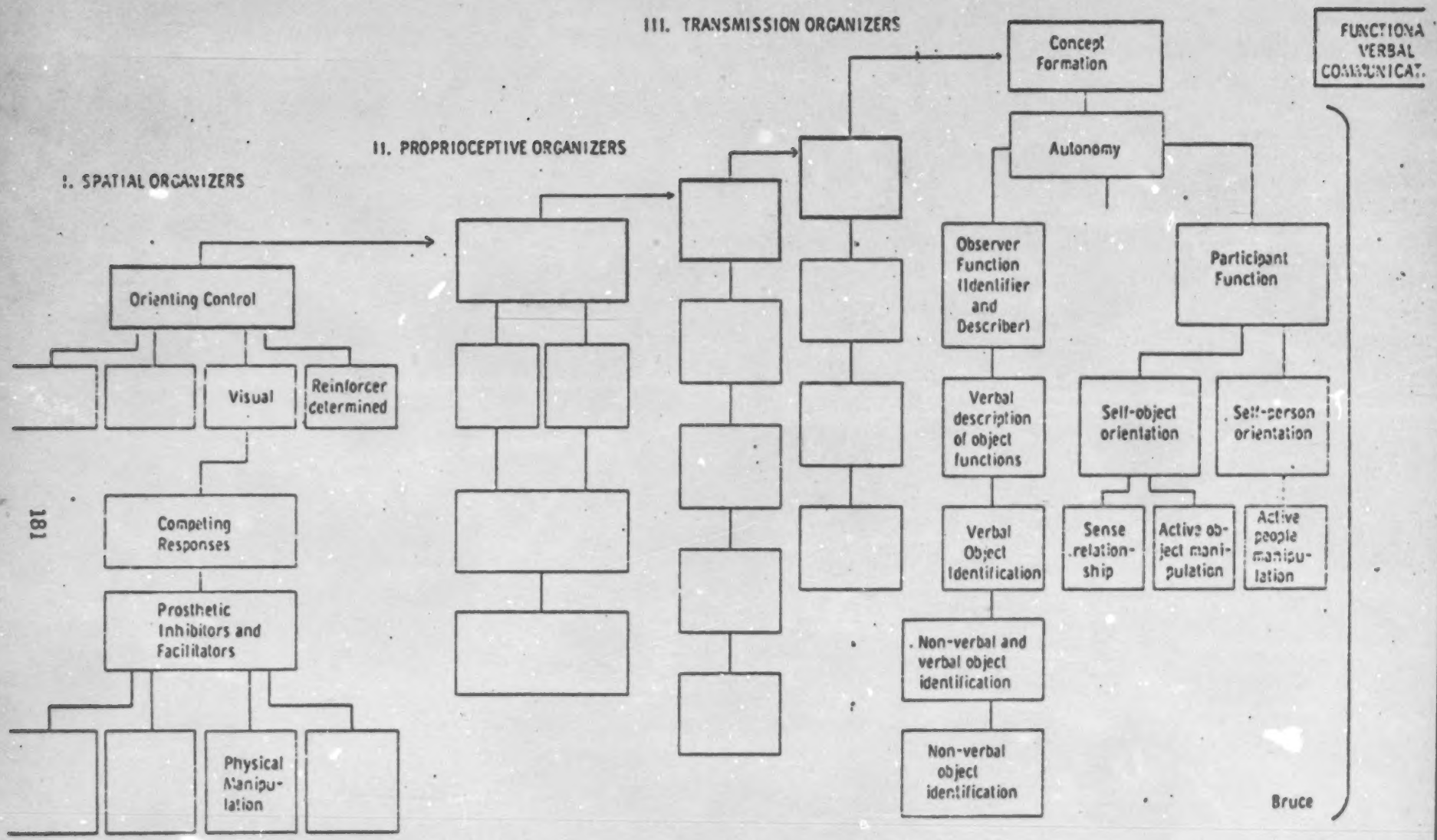

Illustration J

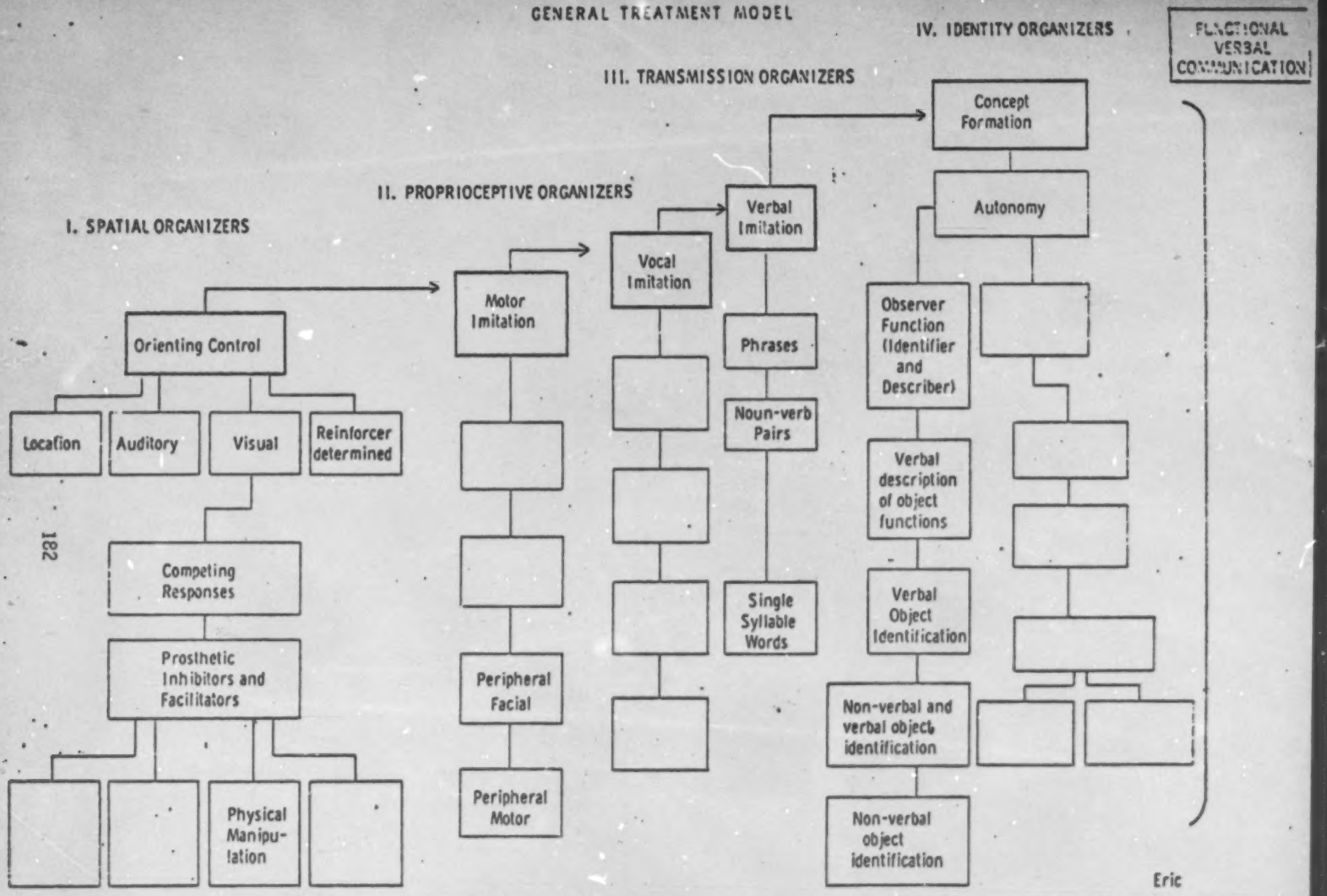

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Illustration K

PURDUE UNIVERSITY INTERACTIVE TELEVISION COLLOQUIUM SERIES

ON

BEHAVIOR MODIFICATION WITH ARTICULATORY DISORDERS-I

November 14, 1972

John V. Irwin, Ph.D.
Memphis Speech and Hearing Center
Memphis State University

I. Background

A. Criteria for an Effective Articulatory Intervention Program in the schools

1. Subjects

a. Polyphonemic
b. Wide Age Range and Ability
c. Independent of Etiology
d. Self-Screening

2. Method

a. No Specialized Equipment
b. Consistency of Program Format
c. Potentially Usable by Sub-Professionals
d. Intrinsic Motivation

3. Results

a. Rapid Achievement of Goals
b. Good generalization
c. No Negative Side-Effects

B. Basic Assumptions and Choices

1. Behavioral Model
2. Conversion Symptom
3. Reward and Punishment
4. Acceleration Techniques
5. Linguistic Concepts
6. Types and Schedules of Reinforcement

II. The Technique (Research Variant)

A. Vocabulary

1. Target Phoneme
2. Training Words
3. Key Words
4. Training Strings
5. Probes
6. Sessions
7. Criterion
8. Intervention Designs

B. Procedures

1. Stimuli
2. Order

III. Results (Research Variant)

A. Criterion

1. Time in Minutes

a. Total Sample
b. Age
c. Race
d. Target Phoneme
(1) /s/
(2) Other than /s/
e. Order of Intervention (1st phoneme, 2nd phoneme, etc.)
f. Intervention Design
g. Clinician
h. Socio-Economic
i. Physical Handicaps

2. Success Ratio

B. Generalization

1. McDonald's A Screening Deep Test of Articulation
2. Free Speech Measures

a. Communicative Handicapingness Scale
b. Right-Wrong Percentages

C. Retention

1. Short Term
2. Long Term

IV. The Clinical Variant

A. Modifications

B. Time (in Minutes) to Criterion

PURDUE UNIVERSITY INTERACTIVE TELEVISION COLLOQUIUM SERIES

ON

BEHAVIOR MODIFICATION WITH THE COMMUNICATIVELY HANDICAPPED

March 13, 1973

"Stuttering and Two-Factor Behavior Therapy"

L. Michael Webster, Ph.D.
Director, Speech Rehabilitation Institute
New York, New York

I. Brief Definitions - Factor One

- A. Deconditioning
- B. Counterconditioning
- C. Reciprocal Inhibition
- D. Systematic Desensitization
  1. distance variables
  2. magnitude variables
  3. versions
- E. Combinations

II. Selecting patients with problem appropriate to techniques - Differential Diagnosis

- A. Brief description of Battery
- B. Appropriate Profile

III. Determining Critical Stimuli

- A. Paper and pencil tests
- B. Consistency scores
- C. Interview - rank ordering

IV. Pre-requisites to therapy

- A. Relaxation training - videotape clip
- B. Visualization training - videotape clip
- C. Further relaxation training utilizing acquired visualization skills - videotape clip
- D. Discrimination and signaling of muscular tension and/or felt emotional arousal - videotape clip

V. Therapeutic Techniques

- A. Specific or discrete stimuli
- B. Situational stimuli
  1. Narrative method - videotape clip
  2. Instruction method - videotape clip

B. Situational Stimuli (Continued)
   3. Instruction method with self monitoring - videotape clip
   4. Combination method
   5. Vignettes - videotape clip
   6. Self narrative -- reading method - videotape clip
   7. The patient speaks up - videotape clip
   8. Motoric and visualization - videotape clip
   9. Flooding - specific with and without visualization
   10. Combinations and other variations

VI. Success - How determine? Factor one

VII. Brief Definitions - Factor two

A. Non-reinforcement
B. Reinforcement of alternative behavior
C. Self-control
D. Punishment
E. Delivery of informing stimuli
F. Response contingent withdrawal of reinforcement
G. Combinations

VIII. General Discussion of Factor two

A. Need for procedures
B. Dovetailing of procedures

IX. Success - How determine? Factor two

X. Question and Answer Period

List of References

Agras, W.S. An investigation of the decrement of anxiety responses during systematic desensitization therapy. Behavior Research and Therapy, 1965, 2, 267-270.

Azrin, N.H., and Holz, W.C. Punishment. In W.K. Honig (Ed.), Operant Behavior. New York: Appleton-Century-Crofts, 1966.

Church, R.M. The varied effects of punishment on behavior. Psychological Review, 1963, 70, 369-402.

Clark, D.F. The treatment of monosymptomatic phobia by systematic desensitization. Behavior Research and Therapy, 1963, 1, 63-68.

Cooke, G. The efficacy of two desensitization procedures: An analogue study. Behavior Research and Therapy, 1966, 4, 17-24.

Craig, K.D. Physiological arousal as a function of imagined vicarious, and direct stress experience. Journal of Abnormal Psychology, 1968, 73, 513-520.

Davison, G.C. Systematic desensitization as a counter-conditioning process. Journal of Abnormal Psychology, 1968, 73, 91-99.

Davison, G.C. The influence of systematic desensitization, relaxation, and graded exposure to imaginal aversive stimuli on the modification of phobic behavior. Unpublished doctoral dissertation, Stanford University, 1965.

Davison, G.C. Relative contributions of differential relaxation and graded exposure to in vivo desensitization of a neurotic fear. Proceedings of the 73rd Annual Convention of the American Psychological Association, 1965, 1, 209-210.

Davison, G.C. Systematic desensitization as a counterconditioning process. Journal of Abnormal Psychology, 1968, 73, 91-99.

Diven, K. Certain determinants in the conditioning of anxiety reactions. Journal of Psychology, 1937, 3, 291-308.

Donner, L., and Guerney, B.A. Automated group desensitization for test anxiety. Behavior Research and Therapy, 1969, 7, 1-13.

Friedman, D. A new technique for the systematic desensitization of phobic symptoms. Behavior Research and Therapy, 1966, 4, 139-140.

Gelder, M.G. Desensitization and psychotherapy research. British Journal of Medical Psychology, 1968, 41, 39-46.

Gray, B.B., England, G., and Mohoney, J.L. Treatment of benign vocal nodules by reciprocal inhibition. Behavior Research and Therapy, 1965, 3, 187-193.

Grings, W.W. and Uno, T. Counterconditioning in fear and relaxation. Psychophysiology, 1968, 4, 479-485.

Grossberg, J.M. Behavior therapy: A review. Psychological Bulletin, 1964, 62, 73-88.

Grossberg, J.M. Successful behavior therapy in a case of speech phobia ("stage fright"). Journal of Speech and Hearing Disorders, 1965, 30, 285-288.

Grossberg, J.M. The physiological effectiveness of brief training in differential muscle relaxation. Technical Report No. IX, Western Behavioral Sciences Institute, Inc., La Jolla, Calif., 1965.

Hunt, H.F. and Brady, J.V. Some effects of punishment and intercurrent anxiety on a simple operant. Journal of Comparative and Physiological Psychology, 1955, 48, 305-310.

Jones, M.D. The elimination of children's fears. Journal of Experimental Psychology, 1924, 7, 383-390.

Kondas, O. Reduction of examination anxiety and "stage fright" by group desensitization and relaxation. Behavior Research and Therapy, 1967, 5, 273-281.

Krasner, L. and Ullmann, L.P. Research in behavior modification: New developments and implications. New York: Holt, Rinehart and Winston, 1965.

Lang, P.J. Experimental studies of desensitization psychotherapy. In J. Wolpe, A. Salter, and L.J. Reyna (Eds.), The conditioning therapies. New York: Holt, Rinehart and Winston, 1964, 38-53.

Lang, P.J., Lazovik, A.D., and Reynold, D.J. Desensitization, suggestibility, and pseudotherapy. Journal of Abnormal Psychology, 1965, 70, 395-402.

Lang, P.J. and Lazovik, A.D. The experimental desensitization of a phobia. Journal of Abnormal and Social Psychology, 1963, 66, 519-525.

Lanyon, R.I., Manosevitz, M., and Imber, R.R. Systematic desensitization: Distribution of practice and symptom substitution. Behavior Research and Therapy, 1968, 5, in press.

Lazarus, A.A. The results of behavior therapy in 126 cases of severe neurosis. Behavior Research and Therapy, 1963, 1, 69-79.

Lazarus, A.A. Objective psychotherapy in the treatment of dysphemia. In H.J. Eysenck (Ed.), Experiments in behavior therapy, New York: Pergamon Press, 1964, 401-406.

Lazarus, A.A. Crucial procedural factors in desensitization therapy. Behavior Research and Therapy, 1964, 2, 65-70.

Lazarus, A.A. and Davison, G.C. The reciprocal inhibition concept and desensitization therapy. In R.M. Jurjevich (Ed.), Handbook of direct and behavior psychotherapies, in press.

Lazarus, A.A. and Rachman, S. The use of systematic desensitization in psychotherapy. South African Medical Journal, 1957, 31, 934-937.

Lazarus, A.A. and Serber, M. Is systematic desensitization being misapplied? Psychological Reports, 1968, 23, 215-218.

Lazarus, A.A. and Abramovitz, A. The use of "emotive imagery" in the treatment of children's phobias. Journal of Mental Science, 1962, 108, 191-195.

Lazarus, R.S. Psychological stress and the coping process. New York: McGraw-Hill, 1966.

Lazovik, A.D. and Lang, P.J. A laboratory demonstration of systematic desensitization psychotherapy. Journal of Psychological Studies, 1960, 11, 238-247.

Leuba, L. Images as conditioned sensations. Journal of Experimental Psychology, 1940, 76, 345-351.

Lomont, J.F. Reciprocal inhibition or extinction? Behavior Research and Therapy, 1965, 3, 209-219.

Lomont, J.F. and Edward, J.E. The role of relaxation in systematic desensitization. Behavior Research and Therapy, 1967, 5, 11-25.

Mowrer, O.H. Learning theory and personality dynamics, New York: Ronald Press, 1950.

Paul, G.L. Insight vs. desensitization in psychotherapy: An experimental in anxiety reduction. Stanford: Stanford University Press, 1966.

Paul, G.L. Two-year follow-up of systematic desensitization in therapy groups. Journal of Abnormal Psychology, 1968, 73, 119-130.

Paul, G.L. and Shannon, D.T. Treatment of anxiety through systematic desensitization in therapy groups. Journal of Abnormal Psychology, 1966, 71, 124-135.

Rachman, S. Studies in desensitization. I. The separate effect of relaxation and desensitization. Behavior Research and Therapy, 1965, 3, 245-252.

Rachman, S. Studies in desensitization. III. Speed of generalization. Behavior Research and Therapy, 1966, 4, 7-15.

Rachman, S. Systematic desensitization. Psychological Bulletin, 1967, 67, 93-100.

Rachman, S. The role of muscular relaxation in desensitization therapy. Behavior Research and Therapy, 1967, 5, 1-8.

Rimm, D.C. and Bottrell, J. Four measures of visual imagination. Behavior Research and Therapy, 1969, 7, 63-69.

Rosenbaum, G. Stimulus generalization as a function of level of experimentally induced anxiety. Journal of Experimental Psychology, 1953, 45, 35-43.

Savage, R.D. and Eysenck, H.J. The definition and measurement of emotionality. In H.J. Eysenck (Ed.), Experiments in motivation. New York: Pergamon Press, 1964, 292-314.

Stampfl, T.G. and Levis, D.J. Essentials of implosive therapy: A learning-theory-based psychodynamic behavioral therapy. Journal of Abnormal and Social Psychology, 1967, 72, 496-503.

Ullmann, L.P. and Krasner, L. (Eds.), Case studies in behavior modification. New York: Holt, Rinehart and Winston, 1965.

Wagner, M.K. and Cauthen, N.R. A comparison of reciprocal inhibition and operant conditioning in the systematic desensitization of a fear of snakes. Behavior Research and Therapy, 1968, 6, 225-227.

Wolpe, J. Psychotherapy by reciprocal inhibition. Stanford: Stanford University Press, 1958.

Wolpin, M. and Raines, J. Visual imagery, expected roles and extinction. Behavior Research and Therapy, 1966, 4, 25-38.

PURDUE INTERACTIVE TELEVISION COLLOQUIUM SERIES

ON

BEHAVIOR MODIFICATION WITH THE COMMUNICATIVELY HANDICAPPED

GLOSSARY

C. Woodruff Starkweather, Ph.D.

In the world of science, there is a great effort to achieve precision of language, and perhaps the unquestioned success that science has achieved is partly a result of its crystalline terminology. But the achievement of precise terms has its drawbacks.

One drawback is that we come to expect new, and carefully used words when we read scientific material. Usually, the newest words are used the most often. So, when we find a word, even a very familiar one, occurring over and over again in a scientific publication, we suspect the author is using it in a specialized sense. When other authors do the same thing, we are convinced that a new, scientifically precise, carefully defined, and eminently useful word has entered the language. Such a word acquires a very bright halo. The most respected authors use it all the time. Overuse, however, does not always mean that a word has a new meaning. Perhaps the old meaning acquired a new relevance. In such cases, the reader often assumes that the word means something other than it used to, much as we might not recognize an old friend, if we saw him hobnobbing with royalty. In behaviorism, words such as frequency, consequences, and contingent have taken on this kind of an aura. But be careful. Some common words have acquired new meanings, such as observable and reinforcement. Both types of words are identified in this glossary.

Another drawback to the use of precise definitions in science occurs when two schools of scientific thought arise concerning the same subject. People being what they are, those who hold such different opinions don't care too much to communicate with each other, so they invent different terms for the same concepts. Long after the original controversy has died down, younger scientists trained in the two schools find that they can't talk to each other. Even when they know they are talking about the same events, the different terms have acquired a connotation that is hard to shake loose. This is why there are both operant and two-factor terms and why two speech pathologists, trained in different schools of behaviorism but both concerned with stuttering, may have difficulty communicating with each other. In the glossary that follows, words that are used exclusively by one school or the other are so indicated.

Reprint from Conditioning in Stuttering Therapy: Applications and Limitations Speech Foundation of America, Publication #7, 1970.

Acquisition: A progressive increment in the frequency at which a response occurs at the result of a conditioning procedure. In instrumental conditioning, reinforcement, positive or negative, is the procedure for achieving acquisition. In classical conditioning, one stimulus is made contingent on another in order to achieve acquisition.

Adaptive Response: An instrumentally conditioned response that enables an organism to avoid or escape objective danger, or to approach or achieve reinforcement in a relatively efficient manner. A two-factor term.

Adjustive Response: A term encompassing both adaptive and maladaptive responses. Specifically, an instrumentally conditioned response the reinforcement for which is achieved when the organism makes an adjustment in the stimulus situation or in his relationship to it (by leaving it, for example) so that there is either a decrease in negative stimulation or an increase in positive stimulation. A two-factor term.

Behavior: The ongoing, continuous activity of an organism. A number of responses. One response. Usually behavior refers to continuous responding, while responses are units of behavior, much like minutes are units of time.

Behavior Modification: A general term for any of a variety of clinical procedures, based on learning theory and conditioning principles, for changing the behavior of clients, either by removing or reducing undesirable behaviors or producing desirable ones.

Branching Steps: In a program, a series of optional conditioning activities which are decided upon on the basis of the client's behavior during an earlier part of the program. An operant term.

Classical Conditioning: Called respondent conditioning by operant conditioners. Any of a variety of procedures in which the experimenter or clinician arranges for a stimulus, which he is confident will produce a specific response, to occur consistently after another stimulus, which he is equally confident will not produce the same response. After a number of such presentations, the response, or a version of it, will occur after the first stimulus as well as after the second. This process is often theorized to be the way in which involuntary, smooth muscle, autonomic nervous system responses are learned. For example, we become frightened (our palms sweat and our hearts beat faster) at the sight of the dentist because in the past his appearance has always been followed by pain. We salivate at the sound of pots and pans rattling in the kitchen because in the past those sounds were consistently followed by eating.

Concomitant Behavior: A response, or a number of responses, occurring at approximately the same time as a response that is being contingently stimulated. The concomitant behaviors are not stimulated contingently, although the stimulation will occasionally follow their occurrence by accident. A two-factor term.

Conditioned Inhibition: A relatively permanent, learned reduction in the strength of a response by the repeated association of temporary reductions in response strength (see reactive inhibition) with certain

stimuli. Through classical conditioning, the stimuli become capable of eliciting a decrease in responding. A two-factor theoretical concept.

Conditioned Reinforcement: Reinforcement the effectiveness of which depends on conditioning. Money is a good example. Someone who has never had any experience with money would not be aware of its value and would consequently not respond or work in order to obtain in.

Conditioned Response: In classical conditioning, the response made, after a number of trials have taken place, upon presentation of the conditioned stimulus. The conditioned response usually resembles, and may even be identical to, the unconditioned response.

Conditioned Stimulus: In classical conditioning, the stimulus that, after a number of trials, comes to result in the conditioned response. The conditioned stimulus is often a neutral stimulus that does not produce any particular response before conditioning. After conditioning, however, the conditioned stimulus becomes positive if the unconditioned stimulus was positive or negative if the unconditioned stimulus was negative.

Conditioning: Any of several procedures (see operant and classical conditioning) in which one arranges for certain stimuli to occur at certain times so that a particular response is made to occur either more often (acquisition) or less often (extinction). When a response that formerly occurred only rarely or not at all is conditioned to occur more often, learning is often assumed to have taken place, provided that the change is long-lasting. It is often theorized that all learning is a result of conditioning processes that take place either by chance or through the conscious manipulation of stimuli by others. Operant conditioners do not make either of these assumptions about learning but restrict their discussion, for the most part, to conditioning.

Conditioning History: The sum total of an organism's pertinent past experience with contingent stimulation. In order to describe an organism's conditioning history explicitly, one would need to describe in detail all the contingent stimuli to which it had been exposed, their schedules of administration, and so on. Since this is impossible, except in a controlled laboratory arrangement in animal research, the term is usually used much more loosely, In the clinic, one might speculate, for example, that a stutterer's conditioning history had included reinforcement for struggle behavior.

Consequences: This term is used so often (for good reasons) that it has acquired an aura and may be felt to mean more than its generic sense. It doesn't.

Contingent: Follows as a consequence of. A stimulus is contingent on a response if the occurrence of the response causes the occurrence of the stimulus. This relationship of causation may be prearranged by an experimenter or clinician. Thus, if a clinician decides to say "good" after five minutes of fluent speech, he has arranged for five minutes of fluent speech to result in the word "good." The word <u>contingent</u> has been used so much that it appears to have a specialized technical meaning, but this is not so.

Control: Usually referring to "stimulus control". A response is under stimulus control when the experimenter or clinician can reliably predict that when he presents the stimulus, the client or subject will produce the response. A response is brought under stimulus control by repeatedly reinforcing (or punishing) it in the presence of the stimulus. An operant word.

Criterion: A predetermined frequency of occurrence of a particular response, signifying the end of a portion of a program. A predetermined response or series of responses for which reinforcement is given. An operant word.

Differential Reinforcement: Any procedure in which one response is reinforced and another, usually similar to the first one, is not. The procedure causes the reinforced response to occur more often and the nonreinforced response to occur less often simultaneously. It is a powerful technique for changing the form of a response by reinforcing only those responses that have the desired form or a similar one. See also shaping, which is a special use of differential reinforcement. An operant word.

Discriminative Stimulus: In operant conditioning, a stimulus in the presence of which some particular consequence, such as punishment or reinforcement, will occur. The discriminative stimulus informs the subject, before he responds, what will happen after he responds.

Extinction: A progressive decrement in the frequency at which a response occurs, sometimes to the point where it fails to occur again. Procedures for achieving extinction may be identified as those in which the conditioned stimulus is presented in the absence of the unconditioned stimulus (for classical conditioning) or those in which the reinforcement is withdrawn (for operant conditioning).

Fluency Failure: A term encompassing both stuttering and any other form of nonfluency, normal or otherwise. A two-factor word.

Frequency: One of the words that has been used so often that it has acquired an aura of technical jargon and may be suspected of meaning more than it does. It simply means how often something happens.

Hierarchy: A list of stimulus situations, arranged by a client in an order representing the degree of negative emotion with which he reacts to them for use in determining the order in which desensitization will take place. A two-factor word.

Informing Stimulus: A stimulus, contingent on a response, the primary purpose of which is to inform the client that the response has just occurred. It may be a neutral, positive, or negative stimulus. A two-factor term.

Instrumental Conditioning: See "operant conditioning."

Learning Theory: Any of a variety of theories, based on the data from experiments involving instrumental and classical conditioning, that attempt to explain how learning takes place. The procedures of conditioning, which have been demonstrated to change the frequency of responding, are used differently by different learning theorists to explain how learning occurs. Most operant conditioners do not speculate extensively about

how learning occurs and consequently do not use the term very often.

Life Situation Procedures: Any clinical procedure in which an attempt is made to use conditioning techniques in the patient's day-to-day environment, usually his home, office, or school. Parents, teachers, friends, and colleagues are usually involved in administering various forms of stimulation according to a predetermined arrangement.

Maintenance (of a response): The administration of occasional reinforcement to keep an already acquired response at some frequency of occurrence. More reinforcement would result in a further increase in frequency (assuming the response is not at some maximum frequency) and less reinforcement would produce extinction. The term is of particular importance in discussions of stuttering, for which one must explain how the behavior is maintained in the face of substantial social punishment.

Maladaptive Response: An instrumentally conditioned response for which the reinforcement is the escape or avoidance of stimulation that is not truly harmful to the organism. A response made at great sacrifice of energy, perhaps even harmful to the organism, for a reinforcement of dubious or nonexistent actual value. A two-factor word.

Massed Practice: Voluntarily repeating a response in the presumed or controlled absence of reinforcement in order to achieve extinction. It differs from nonreinforcement in that the client is instructed to produce the response repeatedly during massed practice, but during nonreinforcement the response is simply allowed to occur at whatever frequency prevails. A two-factor technique.

Modify: To change the frequency at which a response occurs, either by increasing it, as with reinforcement, or by decreasing it, as with extinction. To change the <u>form</u> of a response by changing the frequency of one or more of its components.

Negative Emotion: Also negative emotional response. An all-inclusive term used when one does not wish to distinguish between fear, anxiety, guilt, or stress. A two-factor term.

Negative Reinforcement: The momentary withdrawal of an ongoing stimulus contingent on the occurrence of a particular response so as to make that response occur more often. Both before-the-fact and after-the-fact definitions are used (See positive reinforcement).

Negative Stimulus: A stimulus that an experimenter has reason to believe the subject will avoid. A punisher. An unpleasant, annoying, threatening, noxious, or aversive stimulus. If a negative stimulus were made contingent on a response in an instrumental conditioning procedure, one would expect the response to occur less often in the future. If a negative stimulus were made contingent on a neutral stimulus in a classical conditioning procedure, one would expect the response that originally occurred in the presence of the negative stimulus to occur more often in the presence of the originally neutral stimulus. A two-factor word.

Neutral Stimulus: A stimulus that an experimenter has reason to believe the subject will neither approach nor avoid. A stimulus that is neither pleasant nor unpleasant. A two-factor word.

Noncontingent: Does not follow as a consequence of. Usually used to describe stimuli that might otherwise be mistakingly thought of as contingent. Consequently, noncontingent often refers to stimuli that occur at the same general time (see concomitant behavior) or immediately before or after a response but which were not a consequence of the response.

Nonreinforcement: In operant conditioning, the procedure of discontinuing the response-contingent presentation of a stimulus that has resulted in acquisition, so that extinction will take place. The term nonreinforcement is also, but more rarely, used to describe the procedure in classical conditioning of presenting the conditioned stimulus in the absence of the unconditioned stimulus. The more common term for this procedure is deconditioning. See also massed practice.

Observable: Capable of measurement with reliability. Note that the use of instruments to assist an observer introduces a certain degree of inference. As a result, events may be more or less observable as well as observable and nonobservable.

Operant Conditioning: Called instrumental conditioning by two-factor learning theorists. Any of a variety of procedures in which the experimenter or clinician arranges for a stimulus to occur consistently following the occurrence of a response. If the stimulus is a reinforcer, the response it follows would be expected to occur more often, but if the stimulus is a punisher, the response it follows would be expected to occur less often. This process is often theorized to be the way in which voluntary, skeletal muscle, or central nervous system behaviors are learned. For example, we work at our jobs because that activity is consistently followed by the agreeable consequence of receiving money. The frequency with which we go swimming decreases at the end of the summer as the water temperature falls, and the consequences of plunging in get more and more unpleasant.

Operant Response: See "response."

Positive Emotion: Also "positive emotional response." An all-inclusive term used when one does not wish to distinguish between relaxation, a feeling of well-being, satisfaction, contentment, or any other pleasant state. A two-factor term.

Positive Reinforcement: Positive reinforcement may be defined before the fact as the repeated presentation of a positive stimulus contingent on the occurrence of a certain response. It may also be defined after the fact as an increase in the frequency at which a response occurs following the repeated presentation of a stimulus contingent on the occurrence of that response. Before-the-fact definitions characterize two-factor approaches, and after-the-fact definitions characterize operant conditioning approaches; there are some exceptions, however.

Positive Stimulus: A stimulus that an experimenter has reason to believe the subject will approach. A reinforcer. A pleasant or satisfying stimulus. If a positive stimulus were made contingent on a response in an instrumental conditioning procedure, one would expect the response to occur more often in the future. If a positive stimulus were made contingent on a neutral stimulus in a classical conditioning procedure, one would

expect the response that originally occurred in the presence of the positive stimulus to occur more often in the presence of the originally neutral stimulus. A two-factor term.

Primary Reinforcement: Reinforcement the effectiveness of which does not depend on learning. Food and water are the best examples.

Program: A set of step-by-step procedures determined in advance for modifying behavior. The program determines what response or responses will be dealt with at different times; whether those responses will be reinforced, extinguished, or punished; the type, amount, and duration of the stimuli; the schedule of presentation; and any other details necessary to achieve conditioning. A program is composed of steps which progress in a specified sequence from a given starting point to a predetermined goal (see criterion). Some steps may be optional (see branching steps). An operant term.

Punishment: Punishment may be defined before the fact as the repeated presentation of a negative stimulus contingent on the occurrence of a certain response. It may be defined after the fact as a decrease in the frequency at which a response occurs following the repeated presentation of a stimulus contingent on the occurrence of that response. There is frequently a spontaneous recovery of the response after the punishing stimulation is discontinued.

Reactive Inhibition: A temporary, unlearned reduction in the strength of a response caused by its repeated performance. As originally postulated by Hull, reactive inhibition was related to muscle fatigue, but the concept has also been applied to purely neurological or endocrine functions. A two-factor theoretical concept.

Reinforcement: In the operant position, any procedure in which a stimulus consistently follows a response and results in an increased frequency of that response's occurrence. In the two-factor position, either of two procedures: (1) presenting a positive stimulus contingent on a response, or (2) withdrawing a negative stimulus contingent on a response. In the operant position, the nature of the stimulus doesn't matter, but the outcome of the procedure does. In the two-factor position, the outcome of the procedure doesn't matter, but the nature of the stimulus does.

Respondent Conditioning: See "classical conditioning."

Response: The basic units of behavior. What molecules are to the chemist, organisms to the zoologist, tissues to the histologist, stars to the astronomer, responses are to the behaviorist. For the operant conditioners (at least those who attended the Conference), all behavior can be divided up into responses, so that any organismic event is a response. The two-factor theorists, however (at least the one who attended this Conference) prefer to exclude certain organismic events from the category of responses. Organismic events caused by fatigue, drugs, or other physiological states, changes resulting from maturation or species-specific behavior (instinct) would be considered behavior but not responses. For the two-factor theorist, a response has to have been learned to be considered a response. Although the operant conditioners consider all behavior as made up of responses, they do not consider all

responses as operants. In order to be an operant, a response must be capable of modification through operant procedures.

Schedules (of reinforcement): The schedule of reinforcement refers to the amount of responding required to achieve reinforcement, as determined by an experimenter or clinician. The amount of responding may vary by number (i.e., reinforcing every response or every fourth response) or by the amount of time spent responding (i.e., reinforcing the first response after five minutes). The amount of responding required for reinforcement may also be programmed to vary in a manner unpredictable to the client.

Shaping: A technique for obtaining responses that are not originally in the subject's repertoire. First, the desired response is specified. Then, responses which resemble that response, even remotely, are reinforced. Once the frequency of these responses has been increased, the criterion is changed so that in order to gain reinforcement, the subject must emit a response even more like the desired one. At this point, the technique is a special form of differential reinforcement. The criterion for reinforcement is continuously shifted in the direction of the desired response until that response is emitted, reinforced, and acquired. An operant word.

Social Reinforcement: In clinical or experimental descriptions, the use of approval or signs of friendship ("good," "right," "uh-huh," "mm-hmm," smiling, or nodding) as opposed to reinforcement that does not come from another person in a social interaction.

Stimulus: Any event in an organism's environment to which the organism can respond. These events may occur within the organism (e.g., hunger pains) or outside. Stimuli are not limited to the sudden occurrence of something that was not occurring before, such as turning on a red light; they may also be the sudden nonoccurrence of something that was occurring before, such as turning off a red light (see negative reinforcement); nor need they be sudden--slow events, even the passage of time itself, can be stimuli.

Stimulus Generalization: The process by which a response which is instrumentally or classically conditioned to occur in the presence of a certain stimulus will also occur in the presence of similar stimuli, which were not presented during conditioning, to the degree that they are similar to the original stimulus.

Stimulus Situation: All of the stimuli, or at least all of the pertinent stimuli, impinging on an organism at any given moment.

Suppression: Any of a number of effects, not dependent on learning, which result in a temporary decrease in the frequency with which a response occurs.

Symptom Substitution: The idea that the removal of one symptom will only result in the client's substituting another one for it. The concept rests on the assumption that there is some internal problem for which the symptom is only an outward manifestation. For most behaviorists, however, the symptoms (the behavior) <u>are</u> the problem.

Target Response: A response singled out by an experimenter or clinician, or specified in a program, as one that will receive some predetermined consequence, such as punishment or reinforcement. An operant word.

Two-factor Learning Theory: The theory that learning takes place through both classical and instrumental conditioning. Some theorists postulate a relationship between the two theoretical types of learning: classical conditioning is thought to be responsible for the acquisition of the motivations for instrumental acts. For example, money has no value to an infant, but by repeated association (classical conditioning) with the things it buys, it acquires a positive value. Once that positive value is acquired, the giving of money contingent on the performance of instrumental acts (instrumental conditioning) will increase the frequency with which those acts occur.

Unconditioned Stimulus: In classical conditioning, the stimulus that reflexively upon presentation of the unconditioned stimulus.

Unconditioned Response: In classical conditioning, the response made will regularly and reliably result in the occurrence of the unconditioned response. Unconditioned stimuli may be either positive (food) or negative (electric shock). Each unconditioned stimulus always elicits the same unconditioned response, e.g., food always results in salivation, electric shock always results in the withdrawal of the shocked part.